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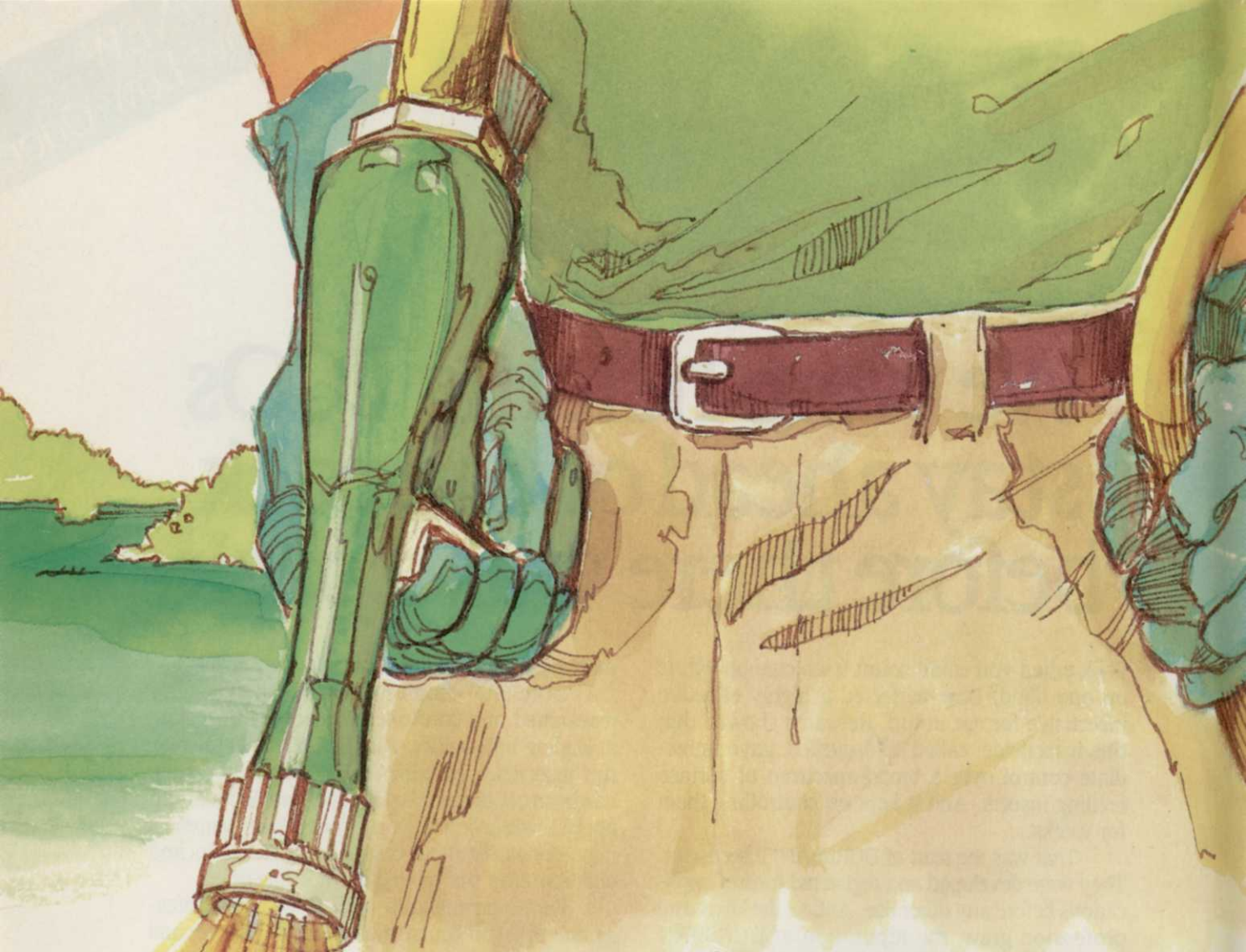

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Ron Hall

Turf fields on top of buildings?

■ Green space at Georgetown University is at a minimum. About 12,000 students attend the 100-acre campus. That's why officials at the Washington D.C. school might install a grass athletic field on top of a proposed building.

They've already reportedly talked to Dr. Bill Daniel, co-inventor of the sand-based Prescription Athetic Turf (PAT) system, about the feasibility of such an undertaking.

The building is being planned for the 2½-acre site presently used for Georgetown intramurals.

Horticulture field 'wide open'

■ Looking for a job? How about a career switch into horticulture? According to a Temple University prof, the jobs are there, but the graduates aren't.

Dr. George Manaker, chairman of the department of horticulture and landscape design at Temple's Ambler Campus, says, "each year we get more and more inquiries for qualified graduates. The jobs are out there. But there aren't enough qualified people to fill them."

Temple literature notes that careers in horticulture are wide open, financially attractive, and personally rewarding. "If a graduate wants to work with interior plantings, it takes only minutes to land a job," says Manaker. "Large corporate buildings and shopping malls have opened up the field of interior landscaping design," he says.

A few years ago, a group of Temple horticulture alumnae formed a landscape design network, aimed at stimulating business opportunities for women. It was a good idea. Today the network serves both women and men as an exchange forum for information on a career in landscaping.

Reduce injuries, reduce liability

■ Litigation arising from personal-injury accidents is a trend we all want to avoid. Greg Petry says park directors can reduce injuries and limit their exposure to liability with some planning.

Petry, coordinator for parks in Park Ridge, Ill., suggests monthly in-service safety training programs plus inspections of park grounds. Prepare and use a checklist, he says. It can be the documentation needed to head off a lawsuit.

Some other hints from Petry:

- Schedule inspections on a "regular" basis rather than weekly or monthly. The term "regular" gives the park director some leeway.
- Once you find a safety problem, make sure your boss is aware of it as well. "Push the responsibility up the ladder," Petry says.
- Don't alter playground equipment without permission of the equipment manufacturer. If you do and an injury results, you become legally vulnerable.

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ASSOCIATIONS

ALCA members receive good business tips

"It's as easy to make $1,000 as it is $100. You just have to multiply your thinking by 10."

Gunther Klaus, keynote and most popular speaker at the recent ALCA Landscape Management Division conference, has a long and diverse business background. It showed during a three-hour presentation to more than 200 ALCA members. Here are some more of his gems:

- "When everybody else stops, you've got to go that extra step. That way, you'll always be ahead of the crowd."
- When you do something really well for a customer, that customer will tell three other people. But when you screw up something for a customer, that customer will tell 13 other people."
- "We're obsessed with the bottom line. But nothing will happen on the bottom line unless it happens on the top line first. That's where it's at."

The conference was held at Dallas's Fairmont Hotel.

The other featured speaker was Carol Sapin Gold, who discussed "The Hidden Side of Customer Relations." Other sessions covered pricing, estimating, seasonal color, liquid fertilizer application, proposals, extras and image-building.

Gunther Klaus captivates ALCA audience in Dallas.

The conference was not without its lighter moments, especially during the annual Brag-Blooper Night.

David Cardenas of Crystal Springs Landscape Maintenance, Morgan Hill, Calif., received a $100 prize for a blooper he once pulled: planting some exotic flowers upside down. The kicker was that when the client wouldn't pay Cardenas for the work, he took her to court—and won!

George Morrell of Clark-Morrell, Lithonia, Ga. won the $100 "brag" prize for the third consecutive year.

New LMD officers will be installed at the annual ALCA convention later this month in Tampa.

PGMS officers for 1986: (from left) executive director Allan Shulder; first vice-president Jeff Bourne; president Clarence Davids Sr.; second vice-president Russell Studebaker; treasurer Ted Shull.

ASSOCIATIONS

GCSAA conference in San Francisco

The International Golf Course Conference and Show will be held Jan. 27 to Feb. 4 at Moscone Convention Center in the heart of San Francisco.

Rooms at 10 area hotels have been reserved for attendees of the huge show, sponsored by the GCSAA.

For more information, contact the GCSAA at (800) GSA-SUPT.

ASSOCIATIONS

PGMS names top man, slate of officers

The Professional Grounds Management Society (PGMS) held its annual convention Oct. 19-24 deep in the heart of Texas (Arlington).

Charles Baiano, grounds supervisor for Sleepy Hollow Restorations of Tarrytown, N.Y., was named "Grounds Manager of the Year" at the group's awards banquet.

A longtime PGMS member, Baiano has guided Sleepy Hollow Restorations to several awards in prestigious shows like the Westchester Spring Garden and Flower Show.

Among other highlights: tours of both the Dallas and Fort Worth park systems; Warren Purdy's two talks; John Watson on landscape illumination; Dr. Ricks Pluenneke on the computer's role in grounds management; WEEDS TREES & TURF advisor Dr. Kent Kurtz on sports turf; and a two-day trade show.

PGMS officially recognized its officers for 1986. They are: president, Clarence Davids Sr., Clarence Davids & Sons Inc. of Blue Island, Ill.; first vice president, Jeff Bourne, Howard County Parks and Recreation in Maryland; second vice president, Russell Studebaker, Tulsa Parks Dept.; treasurer, Ted Shull, Kettering Medical Center, Kettering, Ohio.

Allan Shulder remains as executive director.

Next year, PGMS and the Associated Landscape Contractors of America (ALCA) combine their shows. The joint PGMS/ALCA convention will be held in Milwaukee in November.

SPORTS TURF

New sports turf association seeking allies on sports field

Turf industry leader Dr. Fred Grau pleads for unity in a national drive for safer sports fields.

"It's not just a cause anymore. It should be a crusade," said Dr. Grau to a 12-member "sports turf summit" this past October in Beltsville, Md. The gathering, the second summit convened at the Agricultural Research Station this year, will seek the help of allied green industry associations for safer ballyards.

"Let's bring all the splinters together," said Dr. Grau, who along with Dr. Jack Murray of the USDA co-chaired the meeting.

"This is an opportune time for us to concentrate our efforts," Murray added. "We've got to let people know who we are and what we're doing."

Attendees of the summit

Jack Murray, left, and Fred Grau chaired turf "summit."

agreed to form the National Sports Turf Council (NSTC) under the wing of The Musser Foundation which Dr. Grau directs. The NSTC will act as an "umbrella" organization. It will seek the support of allied associations and suppliers serving the industry.

The next step for the fledgling council will be the drafting of policy statements by a committee chaired by Dr. Eliot Roberts of the Lawn Institute.

Look for NSTC to begin a search for an executive director soon also. Murray said he would like to see a director in place (possibly headquartered in Beltsville) within a year.

Says Murray: "I just think in 10 years we're going to be overrun with things we should have done five years before, or even today."

SPORTS TURF

Pro gridders say real grass better

NFL's John Macik

Most National League Football players prefer grass over synthetic turf.

That's the message John Macik, of the NFL Player's Association, delivered recently to the second "Sports Turf Summit" in Beltsville, Md. A dozen top turf experts attended The Musser Foundation-sponsored summit.

Macik said the Player's Association sent surveys to 1,300 NFL players during the spring of 1985.

Survey results?

Of the 465 responding players, 380 favored natural turf, 55 indicated no preference, and 30 said they'd rather play on synthetic turf.

The NFL Player's Association advocates natural turf playing surfaces in an effort to protect the careers of professional football players. Macik added he feels the natural-versus-synthetic argument is heating.

Says Macik: "I think you're going to see the NCAA and other athletic powers putting together some forums to determine how they're going to deal with this controversy."

The five best playing surfaces voted by NFL players are all natural grass: Tampa Bay, Miami, Denver, Anaheim and Los Angeles.

ACADEMIA

New lab for ag center

The Ohio Agricultural Research and Development Center (OARDC) of Ohio State University has received a new laboratory to study the fate of insecticides on turfgrasses.

The Wooster, Ohio, lab, under the direction of Dr. Harry D. Niemczyk, professor of turfgrass entomology, will place emphasis on the fate and movement of insecticides in thatch and underlying soils.

"This facility will allow us to undertake some long-overdue studies on what happens to insecticides and pesticides after they are applied to turf," Niemczyk tells WTT.

One project examines the role of microbial degredation in the breakdown of insecticides used for grub control.

"We have to begin to pay a good bit more attention to things like groundwater contamination," cautions Niemczyk.

Equipment and staff funding comes largely from the Ohio Turfgrass Foundation and allied industries.

Lab technician Jill Karner works with a flash evaporator.

Fallen telephone poles and debris littered most parts of the course.

The water swept away some golf cars, including this one.

NEWS

Flood-damaged course pleas for assistance

Preston Country Club, a small community golf course in Kingwood, W.Va. needs assistance following a devastating flood on Nov. 4-5, 1985.

Water from nearby Cheat River caused $1,163,000 damage, according to club superintendent Art George, who detailed the club's plight in an exclusive letter to WEEDS TREES & TURF.

"Our goal is to try to save nine holes for play in 1986, and commence rebuilding our other holes as resources permit," George wrote. "We have little to offer contributors that might aid our plight except our sincere thankfulness, down-home hospitality and the personal reward for helping fellow golfers."

Insurance provides only $75,000 for clubhouse reconstruction which is expected to cost $240,000 to replace. Most of that money will be used to pay off the existing mortgage.

"Flood insurance was not maintained on the remaining buildings because no one dreamed the Cheat River could flood to that extent," George wrote. "It might be noted that at no time in recorded history had the golf course or the Preston Country Club ever before flooded, and the November flood exceeded by 10 feet any recorded flood of the river."

Here is the golf course damage caused by the flood which claimed 35 lives and 1,000 homes:

- all maintenance equipment destroyed;
- golf carts and cart storage building washed away;
- one-third of clubhouse (now condemned) washed away;
- 70 percent of golf course covered with river silt, sand and rock deposits from one inch to six feet in depth;
- pump station washed away; and
- electric power lost for nine days.

"We can and must rebuild our golf course and country club, and it must be done on our existing land because it has no greater value for our community, and represents the only flat ground in the area available for a golf course," George wrote. "Our main problem is that, with the cost of golf course materials and construction, we simply cannot afford a conventional reconstruction approach. That is why I am writing you for any help, suggestions or input that you might offer in our time of need."

The country club is a non-profit corporation owned by 130 stockholders. Its 1985 budget was $200,000.

Golf course architect Michael Hurdzan of Columbus, Ohio, was one of the first to offer assistance.

"Our situation is near desperate and we do not want our community to lose one of its best assets," George concluded.

To offer assistance, write Preston Country Club, Kingwood, WV, 26537, or phone (304) 329-1780.

A shed crumbled under the raging current, damaging some golf cars.

A worker surveys damage to the clubhouse where water reached the second floor.

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SHORTCUTS

STMA EDUCATIONAL CONFAB..... Sports turf gets a boost at the GCSAA Conference & Show at the Moscone Convention Center in San Francisco. The Sports Turf Managers Association Educational Conference will run in conjunction with the GCSAA. For information about the Feb. 1 sports sessions contact: Dr. Kent Kurtz, 1458 N. Euclid Ave., Ontario, CA 91764. (714) 598-4167.

SHOW SITES..... The Professional Lawn Care Association of America (PLCAA) has announced its annual convention sites through 1988. The 1986 show will be at Baltimore's Convention Center Nov. 17-21. The 1987 show will be at the Dallas Market Center Nov. 29-Dec. 4. The 1988 show will be in New Orleans.

INTERNSHIPS AVAILABLE..... The Chicago Botanic Garden has 15 internship positions per year for "enthusiastic, self-motivated students who will question and challenge our staff, and will contribute what they have learned in school and prior employment," according to group literature.

For an application contact Kris Jarantoski, intern coordinator, Chicago Botanic Garden, P.O. Box 400, Glencoe, IL 60022, or call (312) 835-5440, ext. 17.

NFSA MOVES SOUTH TO ST. LOUIS..... The National Fertilizer Solutions Association (NFSA) moved from Peoria, Ill., to St. Louis.

"St. Louis was chosen over several other Midwestern locations because we believe it offers excellent air connections for our members coming to the area and our staff travel requirements," says Jay Vroom, NFSA executive vice president.

Vroom notes that St. Louis has hosted several NFSA conventions and committee meetings. NFSA was based in Peoria for 31 years.

PLEASE REPLACE BALL MARKS..... Standard Golf Co., Cedar Falls, Iowa, now markets the Shur-Way tool for repairing ball marks on golf course greens. The Standard Golf/Shur-Way beats the heck out of using a tee. Instead of just raising the sunken area of the ball mark, it utilizes six narrow aerification knives to force the grass and roots from around the injured area into the center of the ball mark. The company says the Shur-Way method allows the user to repair up to 12 ball marks per minute.

IT KEEPS GROWING..... The International Lawn, Garden & Power Equipment Expo in Louisville, KY, gets bigger each year. The management steering committee for Expo '86 is increasing show floor space by another 50,000 square feet. That adds up to 1/4 million square feet of show space. Expo '86 will run July 28-30.

WATER CONSERVATION....."Turfgrass Water Conservation," a softbound book on the subject of using water to assure turfgrass survival and maintenance, is available for $10 plus 15 percent for mailing. The 156-page fully-illustrated work is available from: ANR Publications, University of California, 6701 San Pablo Ave., Oakland, CA 94608-1239.

ASSOCIATIONS

NEDA formed to fill turfgrass void

A new trade association has been born to "fill a void" in the commercial turfgrass industry, says its board of directors.

The National Equipment Distributors Association (NEDA), boasting an early membership of 40 equipment distributors in the United States and Canada, will respond to "pressing concerns in these volatile times for our industry," says Robert G. Johnson, chairman of NEDA and president of Illinois Lawn Equipment Inc., Orland Park.

Johnson tells WT&T: "We're the greatest source of the knowledge in our industry. We need each other. Where else can we go?"

Johnson says members expressed a need to share ideas on internal operations such as computer systems, employee compensation, and better product and service marketing.

The pioneers who make up the NEDA board are David L. DeBra of DeBra Turf & Industrial Equipment Co., Hollywood, Fla.; M. Frank Higgins of Sawtelle Brothers Inc., Swampscott, Mass.; Robert Henshaw of B. Hayman Co. Inc., Santa Fe Springs, Calif.; G. Daniel Boyd of Boyd Distributing Co. Inc., Denver, Colo.; Charles M. Bolt of Porter Brothers Inc., Shelby, N.C.; and Harold L. Vogler of W.F. Miller Co., Birmingham, Mich.

DeBra also serves as vice-chairman and Higgins as secretary/treasurer.

The directors were to meet in late November to hammer-out group policy. One of the issues to be addressed was whether the group, at this writing made up exclusively of Jacobsen distributors, should open its membership to competitors, says Johnson.

Stay tuned to WT&T for details.

Want to know more? Write: National Equipment Distributors Association, c/o Wiken/Reich/Wilder, 75 E. Wacker Dr., Chicago, IL 60601.

BUSINESS

Landscape Expo hits on industry's needs

The Landscape Exposition—March 5-7 in Valley Forge, Pa.—will offer landscape professionals the opportunity to explore some of the acute business challenges in the most comprehensive landscape management program ever devised.

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EXPO *from page 12*

strategies, not vague overviews or platitudes," says conference director Carole Dornblaser.

Among the important topics to be covered are: effectiveness in hiring, equipment buying and costing, insurance and liability, and handling collections. Business-building strategies such as marketing, obtaining credit, assigning business value, and budgeting are also offered.

For more information, contact Dornblaser or Dawn Pratt, HBJ Expositions & Conferences, P.O. Box 5555, 50 Washington St., Norwalk, CT, 06854; (800) 243-2815.

MAINTENANCE

Landscape contractor assigned to Cairo

Marvin Gross, owner of Marvin's Garden & Landscape Service, Sarasota, Fla., will be getting a trip to Cairo, Egypt, early next month.

Gross will be visiting the African continent as a horticultural advisor to an Egyptian company that specializes in horticulture and landscaping.

Marvin Gross

The trip is being paid for under the auspices of the International Executive Service Corps, of which Gross is a member.

"I'm trying to do something more with my life than going in at 7 a.m. every day," Gross tells WEEDS TREES & TURF. "My management is in place, doing a good job, and I'm ready for something a little different."

Gross will be leaving for Cairo on Feb. 7 and spending two or three months abroad.

Marvin's Gardens is celebrating its silver (25th) anniversary this year. Gross has been in the business for more than 30 years. The business was featured in the February, 1985, issue of WEED'S TREES & TURF.

TURF

Grass growth regulator labeled for tall fescue

Stauffer Chemical's grass growth regulator Short-Stop is now labeled for use on tall fescue in 17 states east of the Mississippi.

The product is being marketed for highway and power line rights-of-way, airports, industrial parks, schools, cemeteries, golf course roughs, public parks, and other utility turf areas.

Short-Stop is available in granular form. Stauffer spokesman Greg Bushman says it can greatly reduce the need for mowing by preventing seed head formation. It can be used around evergreens, deciduous trees, and ground covers without injury.

RESEARCH

Iron reduces chill injury to bermuda

One pound of iron in chelate form applied per acre has been shown to reduce chill injury to bermudagrass, according to research being done by Dr. R.E. Schmidt at Virginia Polytechnic Institute and State University.

"The trick with warm season locales is predicting when the chill will come," noted Dr. Paul Rieke of Michigan State University, explaining the research at the GCSAA's Mid-Year Turfgrass Conference.

According to Schmidt's work, the iron should be applied four to six weeks before the first anticipated light frost. "Iron preserves the plant's chlorophyl, keeping it active with a greener color and physiology," said Rieke. "Iron affects respiration, and that influences plants under stress conditions either cold or warm."

Schmidt experimented with iron rates of one-fourth pound per acre all the way up to four pounds per acre.

INDUSTRY

Toro's interest grows in Olathe

An increasing number of Toro distributors will be carrying products manufactured by Kansas-based Olathe Manufacturing, Inc.

Late in 1985, The Toro Company purchased "a significant but minority percentage of the voting stock of Olathe," Toro reports.

The agreement calls for Olathe to develop and produce accessories for Toro products with Toro providing marketing and distribution for Olathe products. Olathe produces seeders, spreaders, chippers, aerators, and mower accessories. That company, employing about 100 workers, was founded in 1971 by C.D. ("Buck") Rogers and Steve Rogers.

Says Toro President Kendrick B. Melrose, "Olathe produces a full line of turf care equipment accessories that will complement and round out our product line."

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WHY ARSENAL IS EASY ON THE ENVIRONMENT.

Because of its unique mode of action, ARSENAL, when used as directed, has no harmful effects on mammals, bees, fish, birds or earthworms. Because ARSENAL is non-volatile and does not move laterally in the soil, off-target vegetation is unaffected. ARSENAL is non-flammable, so it poses little fire hazard. Unlike tank mixes, ARSENAL introduces only one biodegradable product into the environment. And it's applied only once during a season, resulting in a lower chemical burden.

CONTROLS MORE UNDESIRABLE VEGETATION.

ARSENAL has demonstrated control of a broad spectrum of weeds, vines and brush species. Tests in southern states showed that ARSENAL alone (at rates of two quarts per acre) out-performed several tank mixes for annual and perennial weed control. Even more impressive, ARSENAL was most effective on difficult species like Johnsongrass, trumpetcreeper, kudzu and red maple.

ONE APPLICATION GIVES SEASON-LONG CONTROL.

ARSENAL gives you full-season control for up to eight months in temperate climates. It fits your spray schedule, because it can be applied at any time during the growing season. ARSENAL controls not only existing vegetation, but also new weeds that germinate after application. So you get residual control for the rest of the season. On hard-to-kill vegetation, ARSENAL keeps working on the roots until complete control is achieved. In spray solution, ARSENAL is stable for several days. That means no waste due to decomposition, and no chance of underdosing target vegetation.

ARSENAL offers broad-spectrum control, including these tough species:

Johnsongrass	Blackberry
Trumpetcreeper	Bindweed
Poison ivy	Canada thistle
Greenbriar	Foxtails
Redvine	Red maple
Kochia	Kudzu
Multiflora rose	Sumac

DUAL ACTION CONTROLS IN A WHOLE NEW WAY.

Unlike most other herbicides, ARSENAL is absorbed through both roots and foliage to stop new cell growth. Vegetation absorbs ARSENAL in less than two hours, so rain won't wash off your investment. Within four hours, plant growth ceases. In perennials, ARSENAL translocates thoroughly in the roots to prevent regrowth. This unique chemistry makes the visible results of control more gradual. In some vegetation, loss of color and other outward signs may not be apparent for weeks after application. After a year or more, returning vegetation is mainly desirable annual grasses and legumes.

ARSENAL IS RIGHT FOR YOUR RIGHTS-OF-WAY.

On railroad, highway or industrial rights-of-way, around power substations, signal boxes, bridge abutments, lumber or freight yards—wherever you need annual total vegetation control, ARSENAL is the smart new choice for the job.

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COVER STORY

LANDSCAPE PROFILE

THE 'SUPER' SUPER

It rains when it shouldn't. Equipment breaks down. Club members complain. The modern golf course superintendent faces problems from every direction.

by Jerry Roche, editor

Weather, turf and personnel: take your choice.

They're all problems today's golf course superintendent solves every day—or, at the very least, on a regular basis. They're three reasons why today's golf course "super" must be a "super" planner, organizer and executor.

The results of an exclusive WEEDS TREES & TURF survey reveal that unexpected weather conditions are the biggest thorns in the side of today's superintendents. When asked about "problem tasks" which they encounter, "coping with the weather" was listed on the reports of 56.5% of the respondents. And when asked about the challenges they face as individuals, a good portion cited weather problems.

"My greatest challenge is trying to maintain proper playing conditions under adverse weather conditions," wrote one respondent. Many of the written comments came from superintendents of transition zone courses.

Personnel/labor was the most popular response to an open-ended (fill-in) question about the biggest maintenance problem. That is, employees—for one reason or another—simply are not doing their job well enough to suit many superintendents. Another question listed various problems supers might have; though "personnel" was not on the list, it received the most write-in votes.

"Managing people is the greatest challenge I face, be they summer workers or the club champion," noted one superintendent. "The turf can be managed with a proper budget, but people take a whole lot more."

Another agreed: "Dealing with both the people above you and the people below you is important. The weather plays an important role in our job, but is a constant that can be dealt with. But working with people makes for an interesting profession."

And another: "My biggest problem is keeping the staff motivated. Toward the end of summer, everyone is 'grassed out:' sick of mowing, working on, and looking at grass. You really have to work to keep the crew motivated and create job enthusiasm."

Other problems

Other most-cited daily problems superintendents confront are, in order of importance: old equipment going bad, drainage (water) problems, too much traffic from golf spikes and golf cars, and irrigation system maintenance.

One super wrote: "My greatest challenge is convincing the golfing public that the spiked shoes they've been wearing for so many years are as detrimental to the greens as vandalism from carts, traffic, etc."

And the growing trend toward golf car rental doesn't help. According to the survey, 83.6% of the courses report an increase in golf car rental. Just 3.0% report decreases.

Superintendents' most difficult "problem tasks," after weather, are: turf maintenance (cited on 42.0% of the questionnaires), hazard maintenance (27.5%), dealing with members (26.1%), budget problems (21.7%), and tree/shrub maintenance (20.3%).

WT&T SURVEY AVERAGES

Type of Course

Public	43.5%	Daily fee	5.8%
Private	47.8%	Resort	2.9%

Number of holes

Nine	13.0%
Eighteen	73.9%
Twenty-seven	5.8%
Thirty-six	4.3%
More than 36	3.0%

Length a superintendent ..... 10.6 years

Length at current course ... 9.7 years

Average number of rounds/week 960

Geographical distribution

Northeast	20.6%
Southeast	16.2%
Midwest	26.5%
Southwest	8.8%
Plains/Mountains	16.2%
Far West	11.7%

Average maintenance budget

1985	$235,270
Projected 1986	$253,790

Average crew size

Full-time, year-round	5.6
Full-time, peak season	10.4

A profile

The 69 superintendents responding to the questionnaire have an average of 10.6 years experience, and have been at their current course an average of 9.7 years. Most (26.5%) come from the Midwest, followed by the Northeast (20.6%).

Most of the respondents work for private courses (47.8%), but nearly as many (43.5%) work for public courses. Just 8.7% identify themselves as working for daily fee or resort courses.

Almost three-quarters (73.9%) of the courses in the survey are 18 holes, 13.0% nine-hole, 5.8% are 27-hole, 4.3% are 36-hole, and 2.9% are more than 36 holes.

Courses are busier, too. They average 960 rounds per week: public courses 1,305 and private 657. Those figures represent an increase of 40%

continued on page 24

And now the best feature of the Bunton Multi-Trac:

It works.

When a manufacturer claims a product can do everything, it's usually a safe bet that it doesn't really work. Not true with the Bunton Multi-Trac. It does everything from professional grass cutting to clearing, sweeping, scraping and lifting. And it does them well.

The Multi-Trac works because of a unique quick connect/disconnect system for changing front mounted implements in minutes, without tools. Implements include 3, 5 and 7 gang reel mowers, 3 gang flail and rotary mowers, side mounted flail mower, snow thrower, dozer/snow blade, sweeper and multi-purpose bucket.

And it works because of its basic quality of construction combined with design features that achieve exceptionally efficient operation and low maintenance costs. Remote quick cutting height adjustment of reel mowers from the operator's seat and an advanced hydraulic weight transfer system to aid in hill climbing without raising the cutting units for traction are just a few of its many features. Maintenance costs are minimized through easy access to all major components.

Powered by a water-cooled diesel engine, the Multi-Trac is available in two sizes to fit the needs of any facility requiring year-round maintenance including schools, country clubs, sports facilities, military installations, parks, and golf courses.

At last, there is a true multi-purpose grounds maintenance tractor for multi-season use that really works. Write or call for specifications and the name of the distributor in your area.

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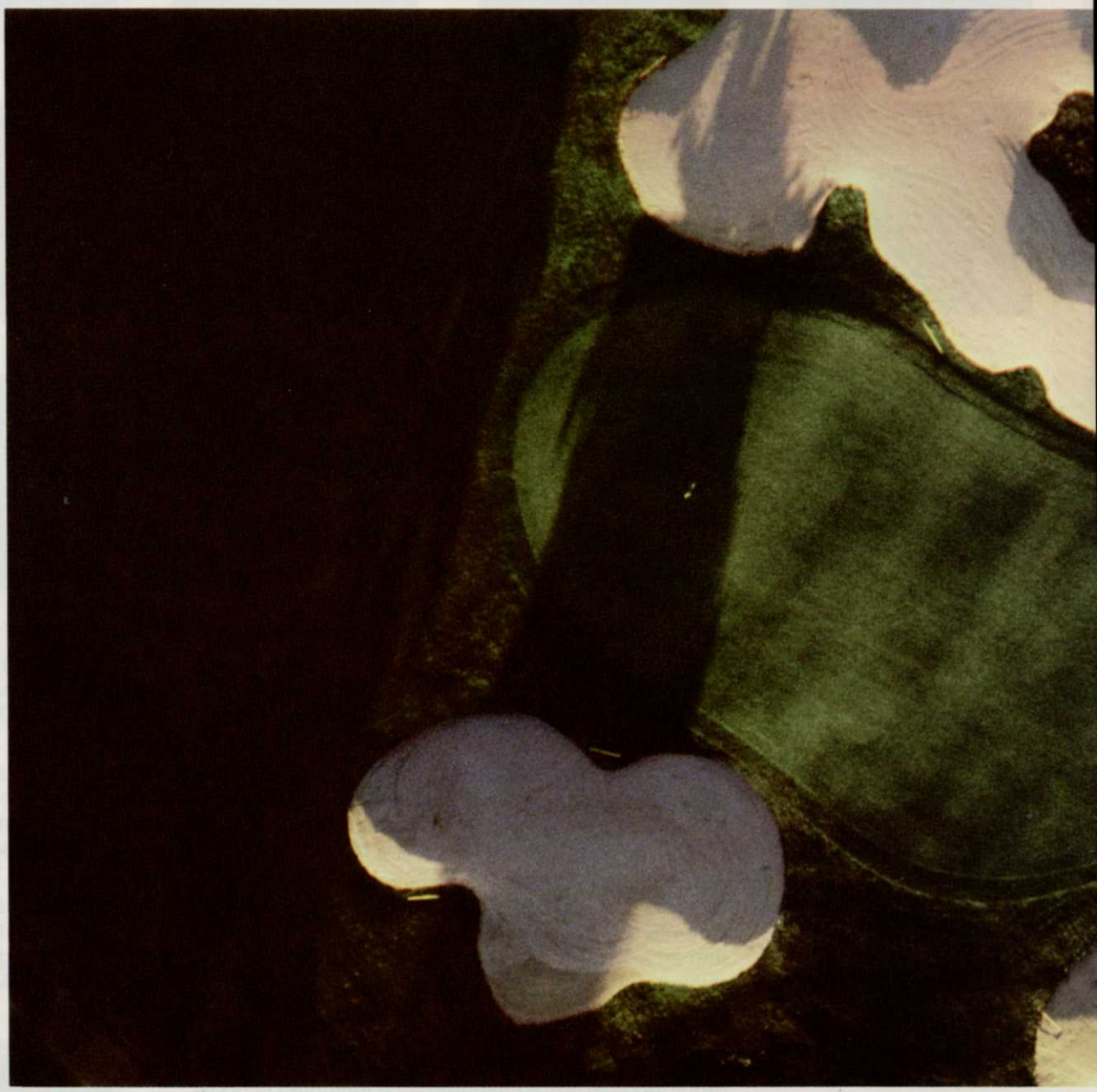

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START OF A FULL COURSE MEAL.

to 3 weeks on established turf. Nothing works better. Nothing lasts longer. And nothing costs less.

With so much at stake, don't wait for the weather. Use Subdue and beat Pythium and downey mildew inside and out.

Instead of providing a full course meal, you'll give Pythium and downey mildew their just desserts.

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SUBDUE

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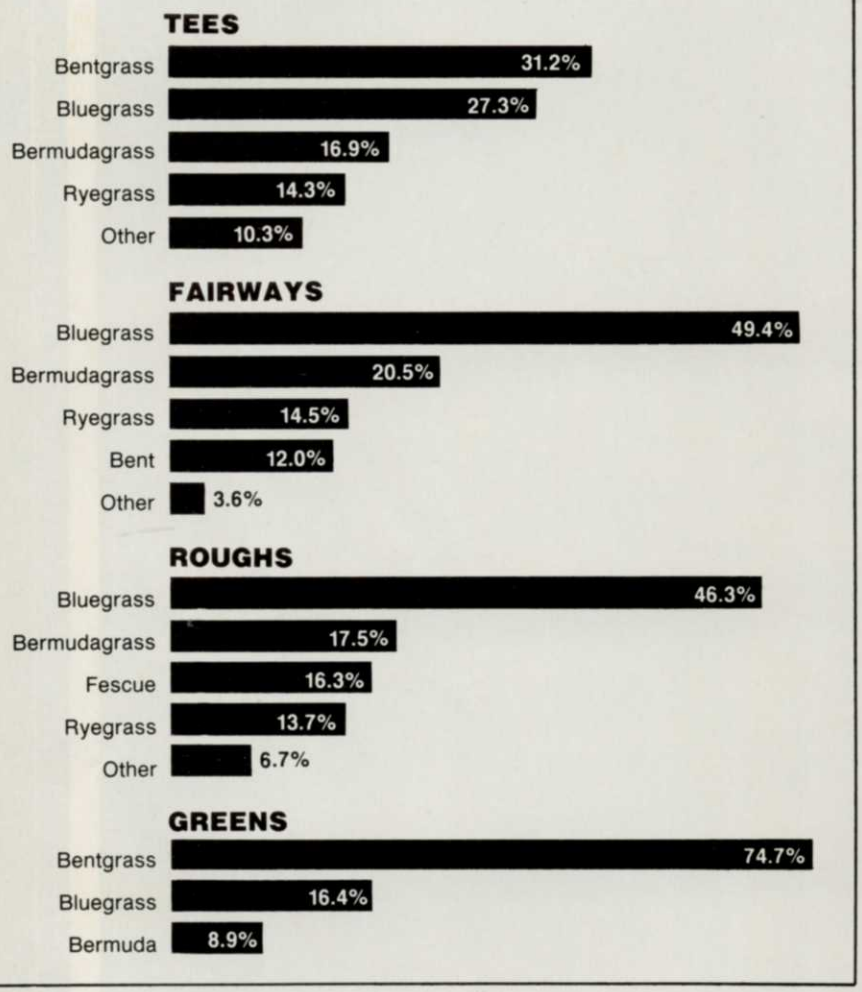
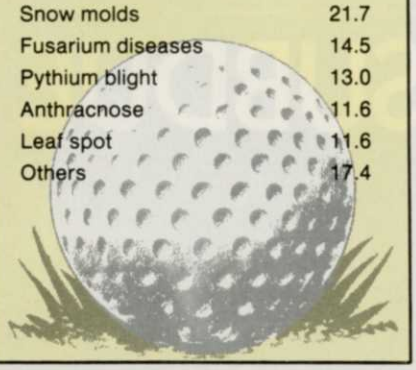
MOST COMMON TURFGRASSES OF GOLF COURSES



PROBLEM DISEASES OF GOLF TURF

(69 responses)

Disease	% respondents
Dollar spot	71.0
Brown patch	56.5
Snow molds	21.7
Fusarium diseases	14.5
Pythium blight	13.0
Anthracnose	11.6
Leaf spot	11.6
Others	17.4



over 1984 figures (reported by the National Golf Foundation and the Golf Course Superintendents Association of America), and might be slightly high, but are nonetheless indicative of a trend toward increased play.

Average maintenance budget of the courses surveyed was $235,270 in 1985 with a projected average of $253,790 in 1986, an increase of 7.9%. The smallest budget was $12,000, the largest $900,000 (the latter expects a $1.1 million budget in 1986).

Maintenance crews average 5.6 full-timers with 10.4 in peak season. Largest crew reported is 26.

Two-thirds of the respondents say their budget for herbicides is expected to increase in 1986; 62.9% say their budget for fertilizer will increase while 61.2% say their budget for fungicides will be higher. But just 52.5% say that their insecticide budget will increase, indicating a recent trend toward a more controlled use of insecticides.

The sample of superintendents who responded to the WT&T survey are joiners: 83.8% belong to a local superintendent's association and an additional 67.6% belong to the Golf Course Superintendents Association of America. USGA Green Section membership is 35.3%. And 84.8% of the respondents have membership dues (in at least one organization) paid by the club.

On the pulse

It appears, from the results of the survey, that golf course superintendents have their finger on the pulse of the industry. When asked what challenges the industry itself faces, their answers match the problem areas most often cited by the GCSAA:

- rising maintenance costs,
- water availability,
- pesticide use,
- public relations,
- problems created by increased play,
- legislation not in the best interests of the industry, and
- turf research.

Superintendents are joiners: 83.8% belong to a local superintendents association, 67.6% to the GCSAA, 35.3% to the USGA.

"The industry must find a way to provide golfers with the best possible conditions, but not overprice the product," wrote one respondent. "In other words, get back to basics."

Another noted: "Money and water are our greatest challenges, because in some areas we are running out of both."

So, clearly, the successful golf course superintendent must be more—much more—than just a devoted horticulturist or agronomist. He must be a "super"-man. **WT&T**

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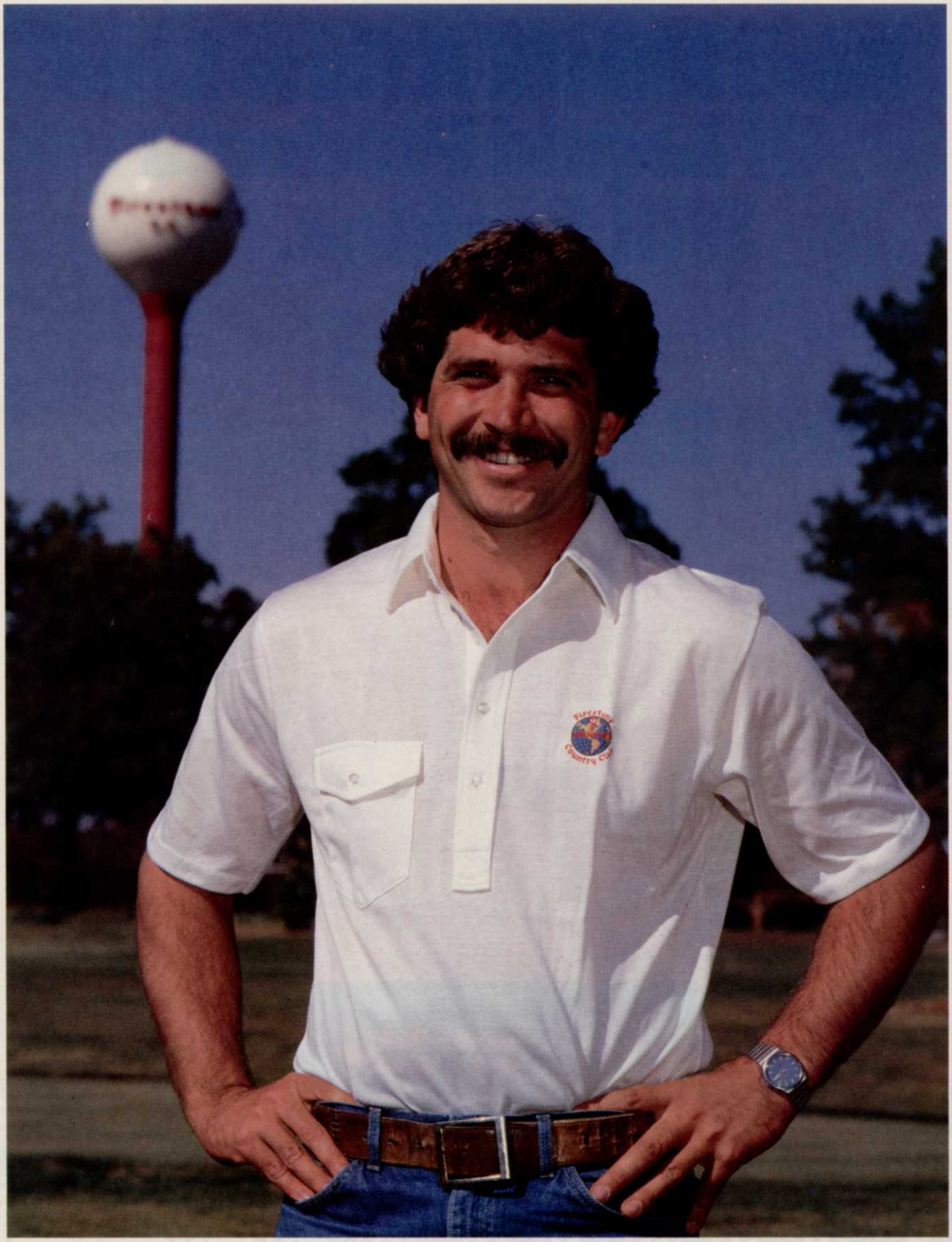

Brian Mabie, Firestone Country Club superintendent.

COMING BACK

Thanks to super efforts by Firestone super Brian Mabie and crew, famed Firestone Country Club is primed for better days and the challenge from fresh-faced newcomers.

by Ken Kuhajda, managing editor

They don't manufacture a single passenger car tire in Akron, Ohio, the "Rubber Capital of the World."

The factories have all moved from the rust belt to sunnier places. Gone is the prosperity of yesteryear. Gone is a part of the population.

But there's good news. The "Big Three" rubber companies—Goodyear, Goodrich, and Firestone—maintain their corporate offices in Akron. The city is making a gradual transition to a service-oriented economy.

And the area's many quality golf courses are still thriving.

Perhaps the best of the lot is the famed Firestone Country Club, just south of Akron. Along with rubber and the Goodyear blimp, Firestone is most associated with this northeast Ohio city.

Although Firestone has lost some of its luster—300 elms were devastated by Dutch Elm disease in the late 1960s and the greens have suffered in recent years—it remains one of the country's most famous courses.

Firestone has had its share of bad breaks. The latest—a case of bacterial wilt in the summer of 1984—has been handled smoothly. Firestone is on the comeback trail.

Brian Mabie was aware that the famed South Course's greens had the disease when he took the superintendent's job in June of 1985.

He had to control by bactericide through the annual NEC World Series of Golf (held Aug. 22-25), and then worry about replacing all 18 greens.

The Penn State grad never doubted that he was up to the task.

Respect but not awe

Mabie spent five years at neighboring Silver Lake Country Club before joining Firestone. Silver Lake is a fine local course, but without Firestone's reputation.

(Interestingly, Silver Lake also had a bacterial wilt outbreak the summer of 1985.)

Although Mabie downplays the transition ("It's Firestone but the turf doesn't know the difference. It'll die just the same."), he realizes he's jumped to the big time.

He was recommended by several Silver Lake members who also belonged to Firestone. They liked his work. So did Firestone general manager Don Padgett II, who hired Mabie after three interviews.

"He was the right guy at the right time. He's enthusiastic and has the technical knowledge," says Padgett. "We're highly pleased with him."

A long history

Prestigious Firestone hosted its first of three PGA Championship Tournaments in 1960, when little Brian was five-years-old. That was the beginning of big-time golf in Akron. The American Golf Classic (with its field of four) began the next year, followed by the World Series of Golf in 1976.

Intimidating? Not for Mabie. Not even maintaining a course with greens crumbling under the weight of bacteria wilt.

His consistent personality is perfect for the conditions he faces at Firestone. He admits to occasional moodiness but most times, remains calm. The ups-and-downs of grooming a diseased course didn't break his spirit.

At least not outwardly. "I'm 30 outside but 56 inside," he confesses.

With curly moustache and weathered good looks, he could pass for a soap opera star, though he projects modesty to an outsider.

He has a "gee-whiz" attitude to the attention he gets as Firestone's superintendent. After all, turf is turf, no matter if it lays at Firestone Country Club.

During the height of greens replacement last fall, Mabie was putting in 14-hour days, six to seven days a week. One Saturday night he finally found the time to take his wife, Terry, to dinner.

He fell asleep at the table. "At least I took her out," he says with an air of accomplishment.

For a time, he was married to the South Course, replacing the diseased Nimisilia bentgrass with the ever-popular Penncross. At the same time other subtle changes were made.

Firestone, designed by Robert Trent Jones and built in the 1920s, looks its age: parallel fairways, repetitious bunkering, poor drainage, poor spectator vantage points.

Mabie and crew altered some correctable flaws hoping to modernize the course without losing its distinguishable characteristics.

During the 1986 World Series of Golf, pros will still wail away at the 7,100-yard course. The fairways are still parallel. The course is still long. Break out the low irons.

But it's a good bet the winning 14-under-par total posted by 1985 World Series of Golf champ Roger Maltbie won't be duplicated in 1986.

The soft greens that made for such low scores will be gone in 1986.

However, making the course tougher isn't the goal of the facelift, says Mabie. "We really have given up on toughening the course for the pros. If they've got the skills to post low scores, then let them do it," he says.

Rather, the subtle changes have brought the course up to USGA specs, improved drainage, and enhanced spectator space. (See related story.) The result may make things a tad more difficult for the tanned boys of summer.

"It will be interesting to hear what they say this year about the changes we've made," says Mabie.

A fine support staff

Sitting in his office exchanging playful banter with workers, Mabie comes across as just another Cushman driver. That "I'm-just-one-of-the-boys" attitude seems to work for the young superintendent.

His workers seem to have a genuine like for their boss. He respects their work.

"You can't get too involved in telling people what to do," says Mabie. "The people here have experience and expertise. They

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*We stand behind the performance and durability of every new Front Line mower with a 2-year warranty:**

The 1986 Cushman Front Line is not the cheapest mower you can buy.

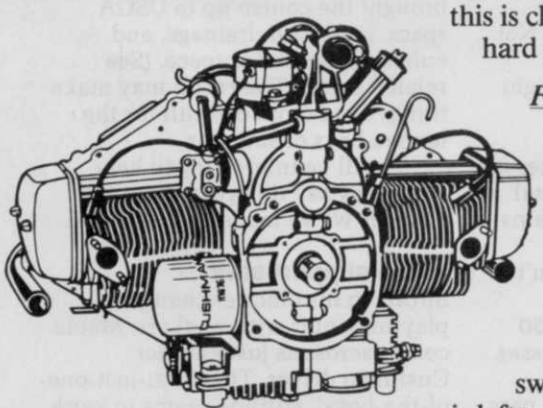
But it is most certainly the least costly mower you can **own.** Simply because it's built to last years longer than any other mower made today.

Here's the proof.

A PROVEN 22-HP ENGINE.

Every gas-powered Front Line is equipped with our proven 22-hp Cushman engine:**

It gives you the power to maintain speed through tall grass, dense weeds and other conditions that might stop other mowers.



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And all the details—from the Teflon-coated O-rings and the swaged-in-place valve guides, to our exclusive Clean-Air Induction System—were designed with one goal in mind.

Years of dependable performance.

BUILT TO LAST.

The Front Line is 1300 pounds of mowing muscle.

Its mowing deck is 12-gauge carbon steel; reinforced, arc-welded and surrounded by a tubular torsion system that prevents twisting.

From the machine-sharpened, heat-treated steel blades to the diamond-plate steel floorboard, this is clearly a machine made for hard work.

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Here's where it all pays off: the quality of a Front Line mowing job.

The three cutting blades are positioned to overlap each others' swath slightly. So no grass is left uncut. The driver can maneuver around bushes, trees and sidewalks with incredible precision, thanks to the Front Line's Dual Traction Assist pedals—separate braking for each of the two front wheels that gives you a zero turning radius.

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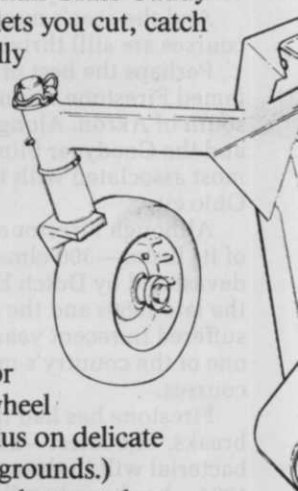
No other mower can be equipped to match your needs as perfectly as the Front Line.

For instance, you can add the exclusive Cushman Grass Caddy™ system, which lets you cut, catch and hydraulically dump 16 bushels of clippings without leaving the driver's seat.



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You can also shut out the elements with a weathertight cab. And keep your Front Line working all year with a Snow Thrower or Rotary Broom accessory.

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understand a lot about their jobs. I don't need to watch people work—I critique when the job's finished."

In a short time, Mabie has established a solid communication line with Padgett, his immediate superior. They speak daily.

Club Corporation of America, Firestone's owner/operator, was generous with budget support in combating the bacterial wilt, says Mabie. "They understand the business—they're aware that if you have a pythium outbreak, you're going to have to spend money."

While the South Course chewed a chunk of the yearly budget, the less-famous and younger North Course, built in the late 60s, saw more action. It's long and features a more modern layout, says Mabie, adding that he has no personal favorite. "They're both perfect," he says with an ornery grin.

He utilizes identical maintenance procedures on both courses. He has no magic formula.

His first year at Firestone, with the exception of fighting the wilt, has gone smoothly. The weather was good; rain was not a problem. "I like everything about the job. I haven't found a bad point yet," says Mabie.

When he runs into a problem, he enjoys the luxury of discussing alternatives with experienced assistant superintendents.

Jim Skelton, former head superintendent who resigned last spring, has stayed on as assistant super. Roy Conner is North Course super while Jerry Turner heads the South Course.

Their advice is invaluable, says Mabie.

The future

GCSAA member Mabie says keeping in touch with the rapidly changing world of golf course maintenance is vital.

He sees his breed as a sort of guinea pig. "We don't have 10 years of research to go on. Some of the things we're doing are not time-tested," he says.

"Our industry is moving so fast and so many of the programs are untested, but you've got to keep yourself updated," he adds.

"Some of the studies look really promising in the laboratory, but when you try them on the course you find out if they really work."

At Firestone, Mabie has just two short-term fears: equipment age and quality of the irrigation system.

On equipment: "We've got a lot and it's in good shape, but we're getting some fatigue problems like cracked welds. But if it's fixable, Randall Pope (Firestone head mechanic) can fix it."

On irrigation: "Our irrigation system is adequate, but not where I want it to be." Look for an upgrading soon, he says.

At least during Mabie's tenure: he plans to stay at Firestone a long time. Unless he doesn't answer what he says is his biggest challenge: readying the South Course for next year's World Series of Golf.

"I better have it ready or somebody else is going to be doing it."

Mabie just may bring famed Firestone back to where it used to be. **WT&T**

Firestone didn't waste any time in battling the wilt. Left, number 18 just after all greens were removed in September. A month later, greens were mowed. That's number 10 at right.

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CLEANING UP FIRESTONE CC'S WAR ZONE

Back in September, Firestone Country Club's South Course looked like a war zone. Mounds of dirt, craters, and brown turf (superintendent Brian Mabie turned off the irrigation system when work began immediately after last year's tourney) violated the South Course.

But by this spring, all will be a memory, provided Mother Nature smiles. By early June, the 300 or so members will be back on the course, encountering several minor changes.

The greens now have a drainage system. Several greens were resloped and number 17's contour was severely altered. Tifton, Ga., resident and greens shaper emeritus Ernest Jones was called in for the job.

Jones brought the greens to specs suggested by Golforce Inc., a Jack Nicklaus company. Golforce architect Tom Pearson spent several days at Firestone consulting with Mabie and suggesting workable improvements.

Mabie has great respect for Pearson. "It was a tough thing Tom did—we've tried to improve the course without losing the characteristics that make it Firestone," he says.

Number 5, previously a 234-yard par three, now measures 200 yards, a more realistic distance for a par three, says Mabie.

Both the pond and fairway at number 16 (625-yard, par five), the famed "Monster," are broader. The wider fairway, says Mabie, is a realistic solution to a minor problem. The old fairway was too narrow, he says.

The finishing hole, number 18 (464-yard par four), has a new green measuring half of what it was, providing more spectator space.

The "new" South Course provides improved spectator vantage points also. Spectator mounds add to what was previously a poor course to watch a golf tournament.

From those mounds, fans can view a general rebunkering throughout the course.

—*Ken Kuhajda*

Top, workers install drainage pipes on the South Course. Below, contractor Jim Zinni (left) and greens shaper Ernest Jones.

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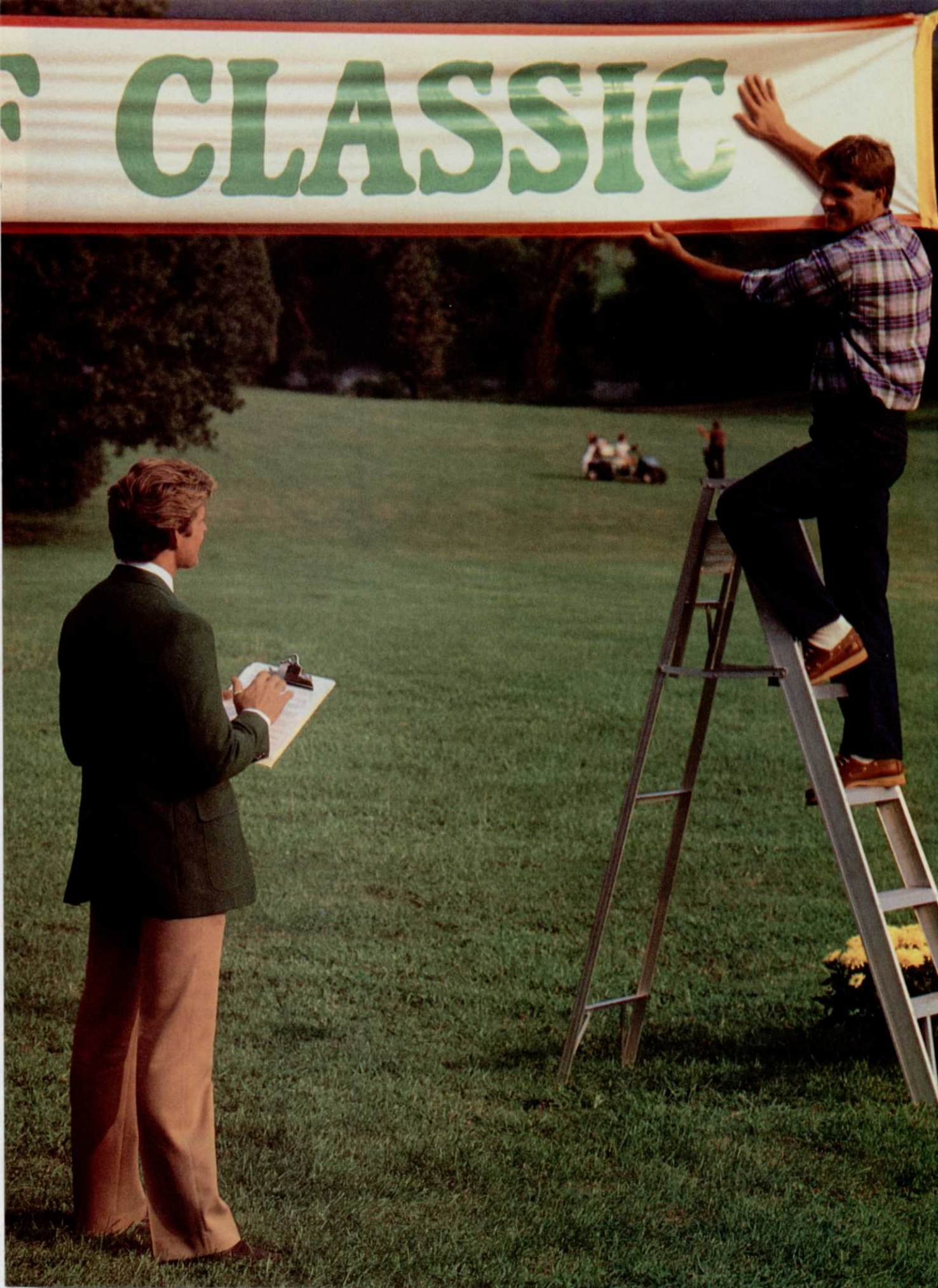
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SUPERINTENDENTS DIFFER IN WILT TREATMENTS

Can you imagine what would happen if bacterial wilt began attacting the Penncross and Penneagle bentgrasses?

Nasty thought, isn't it? Yet there have been unconfirmed reports that it's been found on Penncross, Penneagle, Seaside, and bermudagrass.

Dr. D.L. Roberts of Michigan State University, who along with colleague Dr. Joe Vargas discovered and initially researched the disease, says the wilt will eventually attack other turfgrasses including the Kentucky bluegrasses, ryegrasses, and fescues.

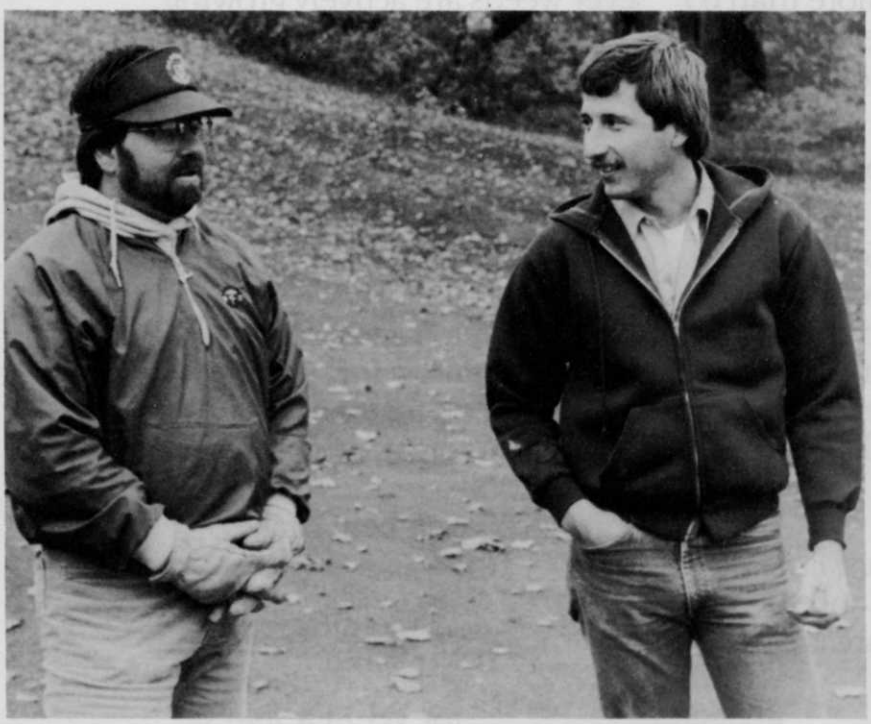
Prior to 1984, the wilt was reported on only the Toronto creeping bentgrasses. It's now been confirmed on annual bluegrass and Nimisilia creeping bentgrass.

The problem previously associated with the Toronto at Butler National near Chicago is now a problem for all courses.

WEEDS TREES & TURF visited two infected courses last fall to find out how each superintendent treated the disease. The treatments varied and for good reason. Firestone Country Club's South Course (Akron, Ohio), and Hazeltine National Golf Course (Chaska, Minn.) spent the spring and summer devising a game plan to combat the wilt and began the long recovery process in the fall.

Firestone

In 1984, Firestone's greens were sluggish, allowing no percolation.



Hazeltine superintendent Chris Hague (left) and Charles Taylor of the Hendricks and Dail Co. of Greenville, N.C. Hendricks and Dail applied methyl bromide to the Hazeltine course.

"They just never came around," general manager Don Padgett II says. "Anytime we disturbed the turf at all they regressed."

Padgett knew the greens were sub-standard by professional standards yet he and Firestone officials were at a loss to explain the problem. Bacterial wilt was ruled out: the greens were seeded with Nimisilia bent, not the C-15 Toronto.

Then came the 1984 World Series of Golf. Enter the "Golden Bear."

"On tournament Saturday, Jack (Nicklaus) came to me and said he thought we had the bacterial decline that they had at Muirfield," remembers Padgett.

Padgett thought that was impossible. The wilt had been reported only on the C-15.

"Jack came back to me on Sunday and said, 'Don, I'm almost sure that's it. I've been spending more time looking at the greens than playing golf.' Well, we sent a greens sample to Dr. (Philip) Larsen at Ohio State," says Padgett.

Dr. Larsen, now at the University of Minnesota, identified the disease and Michigan State University's Dr. D.L. Roberts confirmed.

Firestone *did* have the wilt. The decision? "We decided that, to maintain a world-class facility, a major renovation was needed—not a minor overseeding," says Padgett.

Firestone would wait it out, "baby" the greens through the summer of 1985, and begin work immediately after the World Series of Golf (Aug. 22-26).

Course superintendent Brian Mabie and crew controlled the disease with the antibiotic Mycoshield, applying at night because of the chemical's phytotoxicity. They upped the nitrogen application rate, raised the cutting height to $^{3}/_{16}$-inch from $^{1}/_{8}$, and made weekly applications of iron with the normal fungicide.

On August 26, the practice greens were stripped. The other greens followed the next day, the same day coring began. Mabie says it took 11 days to core all greens to the depth of 16 inches.

At the same time, drainage systems were built for all greens. By Sept. 18, all drainage systems were in and all mix (85 percent sand, 15 percent humus) was in place.

The crew seeded (Penncross bentgrass) from Sept. 27-30, took a short breather, and prayed that Mother Nature be kind.

She was. The greens, some reshaped and recontoured, took and were mowed on Oct. 28.

"I think the course will be in the best shape it's been in since the 60s," says Padgett.

Hazeltine

Superintendent Chris Hague noticed a problem with his C-15 Toronto bentgrass greens in May 1985. "I saw something that looked like fertilizer pellet burns," he recalls. "Four greens were particularly slow to come around."

continued on page 38

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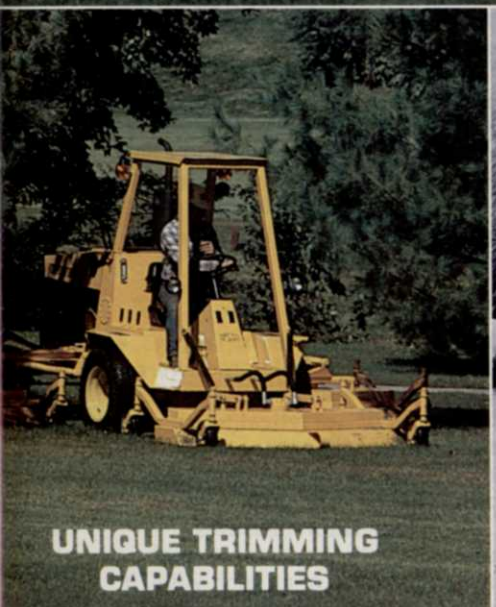

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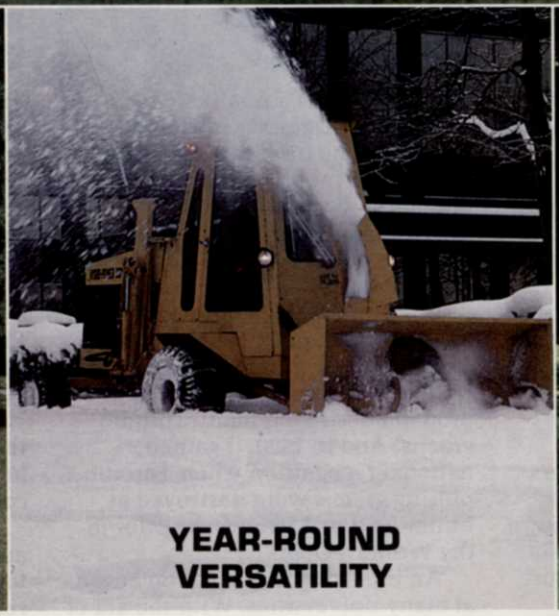

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The greens of numbers 3 through 6, located in slightly shielded areas, have poor drainage capabilities, he says.

The C-15, original turf at Hazeltine, had held up well since the course was built 23 years ago.

The problem spread. "By process of elimination we finally determined that it was bacterial wilt," says Hague. "You hate to admit it because there's only two things you can do—fumigate and resod or fumigate and reseed."

(The other alternative is to tear out all greens to a sufficient depth, as Firestone chose to do.)

Drs. Vargas and Roberts at Michigan State confirmed the disease in late June. This information was relayed to the greens chairman.

Membership was informed on July 8 by bulletins explaining the history of bacterial wilt. "The bulletins helped people understand that we were not alone, that this wasn't a first incidence," says Hague.

On July 17, Dr. Vargas and a USGA greens section official attended an open membership meeting to better explain the problem. The members, somewhat angry over the problem, "really eased off" after the meeting, says Hague. "From then on, it was 'how are we going to take care of this?'"

They decided not to use a bactericide for expense reasons. "Luckily we had the kind of summer where all greens stayed very puttable," says Hague. Nine different options were hammered out.

Hague and Hazeltine took a novel approach—they chose to fumigate in the fall and resod Penncross bentgrass in the spring. It's a technique that has not been tried previously, claims Hague.

There was one catch—members decided not to give up the course until Sept. 23! In Minnesota, it snows in early to mid-October. Hague and crew were faced with a race against Mother Nature.

They won, sort of.

The Hendricks and Dail Co., North Carolina-based fumigators, handled the methyl bromide (hot gas) treatment. Methyl bromide sterilizes the soil and must be applied at soil temperatures of over 50 degrees Fahrenheit. The gas is forced into the soil, covered by tighly-secured plastic to prevent leakage and ensure penetration.

Half the greens were fumigated the week of Oct. 1 and three others later in October. The remaining six holes (numbers 11, 13, 14, 15, 16, 17) will get the gas in the spring.

Hague says he hopes to resod the front nine the first two weeks of April and the back nine as soon as possible.

Ideally, golfers will be playing the front nine by early June and the back by the 15th.

"If we get a break at all, we'll get the course back to snuff by June 15," says Hague.

—*Ken Kuhajda*

RECOGNIZING BACTERIAL WILT

by David Roberts and Dr. Joseph Vargas Jr.

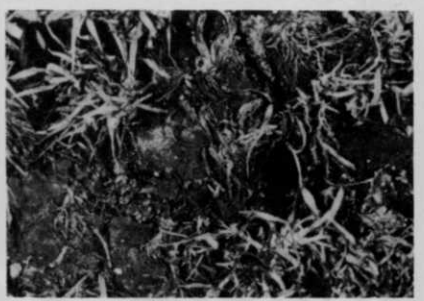

Fig. 1 left: bacterial wilt under an electron microscope

Fig. 2 above: turfgrass affected by bacterial wilt

Bacterial wilt is a relatively new disease of turfgrasses in North America. The disease was originally called C-15 problem and C-15 decline, a devastating and unresolved occurrence on Toronto creeping bentgrass (C-15) for more than a decade.

Since the 1930s, Toronto creeping bentgrass was propagated on golf course putting greens throughout the Midwest. During the 1970s, the C-15 problem destroyed many Toronto greens. And in 1980, it gained national recognition when Toronto putting greens were destroyed at Butler National two weeks prior to the Western Open.

An intensive investigation began at many universities. With the aid of Michigan State University's electron microscope, bacteria were associated with the xylem tissues of diseased Toronto creeping bentgrass (Fig. 1). Xylem vessels of plants are responsible for the uptake of water and nutrients. The plugging of these xylem vessels by large numbers of bacteria naturally resulted in rapid wilting and death of turfgrass plants. The disease was subsequently named "bacterial wilt" of Toronto creeping bentgrass.

David Roberts is academic specialist and Dr. Joe Vargas is professor in the Department of Botany and Plant Pathology at Michigan State University.

Significance

Prior to bacterial wilt on Toronto, no bacterial wilts of turfgrasses were previously known in North America. Using various analytical techniques, the bacterial wilt pathogen has now been characterized as *Xanthomonas campestris* pv. *graminis*.

This bacterium measures approximately $^{1}/_{25,000th}$ of an inch long and $^{1}/_{50,000th}$ of an inch wide. It reproduces every four to six hours.

Until it was isolated from Toronto creeping bentgrass in the United States, this bacterium was only found in Europe. Originally discovered in Switzerland in 1975, the bacterium has now spread to the British Isles, Netherlands, Germany, France, Norway, Denmark and New Zealand.

We presume that the bacterium was introduced from Europe to the United States, where it has virtually

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destroyed Toronto creeping bentgrass as a propagated turfgrass.

Affected areas

During the summer season of 1983 and 1984, bacterial wilt was found on Seaside and Nimisilia creeping bentgrass and annual bluegrass. Whereas Toronto, Seaside and Nimisilia are not propagated to any appreciable extent on home lawns, annual bluegrass is a naturally-occurring turfgrass found in most regions of the temperate zone.

Bacterial wilt has been found on turfgrasses in eight states: Indiana, Illinois, Kansas, Michigan, Minnesota, Ohio, Pennsylvania and Wisconsin. This indicates that the bacterium is not only spreading to new host plants, but also to new geographical locations. The occurrence of bacterial wilt on annual bluegrass and the bentgrasses strongly suggests that Kentucky bluegrass and other grasses may also succumb to the disease.

Bacterial wilt of turfgrasses is analogous to several other diseases. The accidental introduction of pathogens that cause Dutch Elm disease and chestnut blight has practically eliminated American species of these trees in the United States. Another pathogen, *Xanthomonas campestris* pv. *citri*, the cause of Citrus canker in the southern United States, is closely related to *Xanthomonas campestris* pv. *graminis*, the cause of bacterial wilt of turfgrasses.

Millions of dollars, along with very strict quarantines, eliminate the citrus canker bacterium whenever and wherever it is detected. Unfortunately, the turfgrass industry is not sufficiently organized to mount this kind of action. So bacterial wilt continues to spread to additional states and new varieties of turfgrass.

Cures?

Even though bacterial wilt can be suppressed with the antibiotic oxytetracycline, the chemical is both expensive and may not be effective for a long duration as resistance by the bacterium is highly probable. Except for fumigation, followed by seeding and sodding with alternative turfgrasses, no other control measures are feasible.

Diagnosis

Bacterial wilt undoubtedly occurs on other turfgrasses in many regions of the country. However, absence of knowledge of the disease usually prevents accurate diagnosis.

Unlike many turfgrass diseases, bacterial wilt does not occur in rings or patches; it is strictly random, affecting individual plants in large areas (Fig. 2).

One of the most important diagnostic features of the disease is a very rapid wilting. Leaf blades become shriveled, twisted and blue-green in color.

Unfortunately, accurate diagnosis can currently only be accomplished by trained personnel at university diagnostic laboratories, and then it can only be determined with fresh samples. Therefore, turf samples should be mailed through an overnight service. Accurate diagnosis is essential if management strategies are to be effective in combating this devastating disease.

If further information is desired, contact the authors at Plant Diagnostic Clinic, 141 Plant Biology, Michigan State University, East Lansing, MI, 48824-1312. Phone numbers are (517) 355-4536 and 353-9082. **WT&T**

Clubs affected by bacterial wilt

Some golf and country clubs where bacterial wilt has been diagnosed by Michigan State University:

INDIANA

Youche, Old Oak, Bloomington, Highland, Phil Harris, Crooked Stick, Hilcrest, Meridian Hills, Harbor Trees, Fort Wayne

ILLINOIS

St. Charles, Butler National, Cog Hill, Village Links, Kellogg, Timber Trails, Medina, Edgewood Valley, Glenn Oak, Riverside, Bloomington, Decatur, Park Hill, Olympic Fields, Midlothian, Pottawatomie, Glen Flora, Waukegan

MICHIGAN

Alpine, Bay Pointe, Leland, Goodrich, Maple Lane, Raisin River, Royal Oak, Evergreen, Birchwood Farms, Old Channel, Plymouth Park, Edgewood, Plum Hollow

OHIO

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GOLF'S KEEPER OF LEGENDS

Walter Woods maintains ancient St. Andrews as a continuing challenge for today's golfer. He does it with style.

by Ron Hall, associate editor

St. Andrews greenkeeper Walter Woods on one of the courses's huge greens.

Walter Woods breathes the salty air of two worlds.

He's greenkeeper of St. Andrews. Golf entrusts him (and it has for the past 11 years) with the double-edged task of preserving its most sacred turf and, simultaneously, meeting the demands of today's game. Golf is believed to 900 years old here. Yet, more than 40,000 rounds are played annually on some of this same wavey duneland.

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This job assumes almost religious overtones with the ghost of Old Tom Morris, hole-cutter in hand, prowling the Old Course. How else characterize a course with the "Valley of Sin" or "Hell Bunker?" Legend has it that St. Regulus spirited the relics of St. Andrews from a Greek island to these shores in 763. Hence the name of this city of 11,000.

A part of history

Greenkeeper Woods works under the weight of this history. Enjoyably too.

This ruddy-faced Scot has a penchant for lively conversation and, its reported, aged malt whiskey, the kind that's found here and few other places in the world. The smooth island whiskey that warms a soul in the dank gloaming. He's a colorful, handsome man, wispy haired, his eyes a steel gray.

American friends smile at the remembrance of a tipsy and grinning Woods, kilts and all, trundled into a waiting taxi last February in Washington D.C. This to admiring whistles of passerbys after an evening of trading stories at the GCSAA Conference.

Called to help supervise construction of a course in Japan this past year, Woods insisted the bunkers be deep and dangerous. "They want to play world class golf, then they'd better play on world class courses," he bites off with a mischievious smile.

Firing up another of his endless cigarettes, he looks you in the eyes with his square-jawed grin, and talks St. Andrews. His aging land rover grunts through soaked swale, up gorse-covered boils. This is linksland golf.

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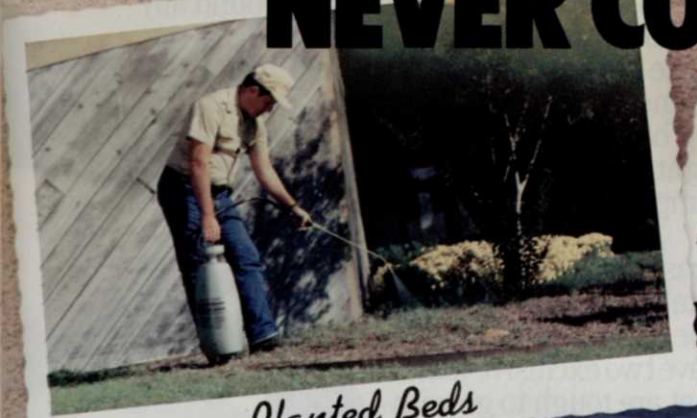
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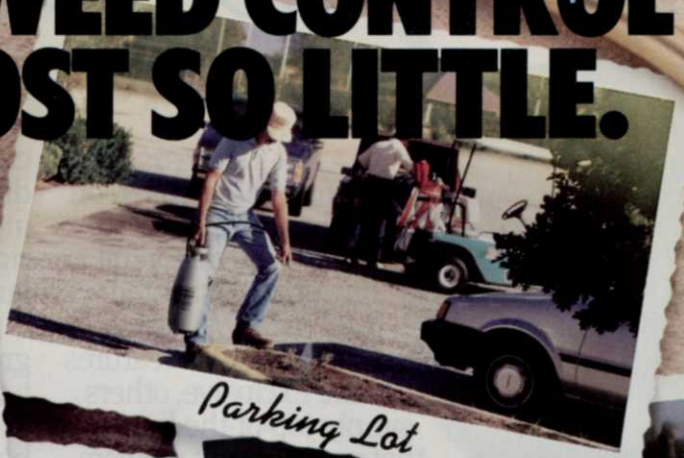
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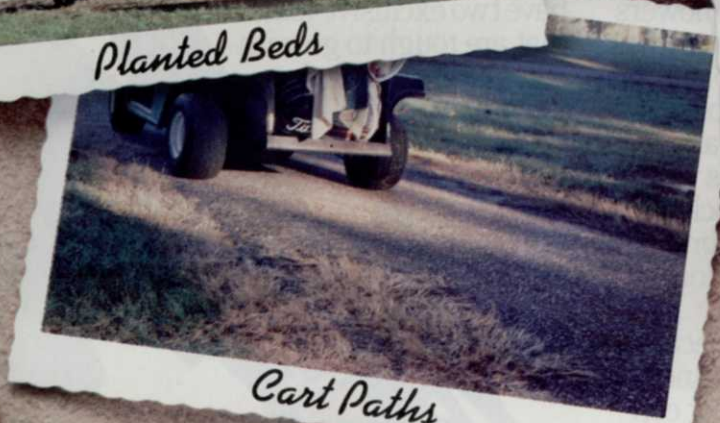
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Just two years ago our first series rolled off the line, and this year we're back with a full line of sophisticated machines. We have a new package of features (some exclusive, others simply top-of-the-line) that put our front mowers way ahead of the other guys.

For starters, this year in addition to our gas-powered models, we offer two liquid-cooled diesel models, the 17-hp F915 and the larger 22-hp F935. These field-proven engines feature heavy duty design, especially in the block and crankshaft areas. Plus a full-pressure lubrication system to keep them running cooler for longer engine life.

You'll be running a lot cooler, too. Because features like hydrostatic transmission, standard power steering, and a new dual-pedal foot control, all go a long way to make this probably the easiest front mower there is to drive.

Combine those features with our new 76-inch wide swept spindle mowing deck (available on the F930 and F935) and you can forget about ever having to trim. You can cut around any tree or shrub, and leave an uncut circle of grass only 14 inches in diameter. Or use the turning brakes and mow right around a fence or lamppost.

If you have to cut grass anywhere but a totally flat surface, and who doesn't, our front mowers have two exclusive features that are tough to go without. Differential lock will improve traction on slopes or ditch banks. And our weight transfer valve will keep

you cutting through long grass or in slippery conditions.

Of course, the best feature that we have to offer is our John Deere name. Which has come to mean quality and dependability. We stand behind our front mowers with a two-year limited warranty. And, in the unlikely event that anything should go wrong, you can go back to your local John Deere dealer. (Which shouldn't take long. We have so many commercial dealers across the country that there's probably one very close to you.) If he doesn't have the part in stock, he'll get it for you in hours—not weeks—thanks to our unique computerized FLASH™ parts system. Because he knows that if your front mower isn't working, neither are you.

2 YEAR WARRANTY

While space here is limited, the list of terrific features on our front mowers isn't. To find out more, just write John Deere, Dept. 75, Moline, Illinois 61265. Or call 800-447-9126 toll free (800-322-6796 in Illinois) for the name of the dealer nearest you. If you're in the market for a front mower, we challenge you to check out the other guys, and then look at us. We'll only look that much better in comparison.

JOHN DEERE

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and grab a chunk of the sagging sky the color of a dirty ceiling. The only stirring, in addition to a solitary wind-surfer plying the sweeping breakers of nearby St. Andrews Bay, are knots of American golfers determined to meet tee-off times.

The destination, one of St. Andrews' unique double greens. There are seven on the Old Course. The largest, containing the 5th and 13th holes, is an acre.

"We double cut these in the evening and once in the morning for an Open," Woods says. "The boys've got blisters on their feet, I'll tell you." A triplex can mow this 5,555-square yard monster in a half hour. It takes a pair of workmen, pushing 20-inch mowers, 3/4 hour each.

The greens are mowed just three times weekly for non-tournament play.

A battle of grasses

These giant greens, found only at St. Andrews, are not Woods' biggest challenge. That's preserving the nature of a turf surface that often calls for low driving shots under sea winds, hoping the shot approaches the greens on a roll. The fairways are hard, but not as hard as they were. Woods sees it as a battle of grasses.

"We must control the spread of competing grasses," he explains. Inland grasses must not be allowed to dominate the fescue-bentgrass character of St. Andrews. "These courses must remain in seaside links condition."

This means rigorous aeration each winter, minimum levels of fertilizer and infrequent irrigation each summer.

Woods enlists nature's help also.

"The more sand I use with a high salt content in it, the more beneficial it is to me. I don't worry about the salt in the beach sand. The only grass it affects is poa (annua)."

The secret of St. Andrews' greens? Alternate layers of sand and seaweed. Says Woods: "One time I used to do it with soil, seaweed, and sand. But the soil brings in weeds."

Change, however, is inevitable. Even at St. Andrews. But it's monitored by a Links Management Committee made up of representatives of the town council and the Royal & Ancient Golf Club. This committee directs Woods in the care of the one 9-hole and four 18-hole (the Old, New, Jubilee, and Eden) courses at the site.

Irrigation came to tees and greens at the Old Course 20 years ago, to the fairways in 1977. "They just couldn't play golf under those conditions," Woods says.

"It's our intentions within the next two or three years to irrigate the other courses as well. We'll be doing everything wall to wall," he explains. "Sometimes we can get terrible droughts in the summer."

Major fairway renovations are under way on the Jubilee Course, also, the first major changes on that course which opened in 1897, the year of Queen Victoria's Diamond Jubilee.

Woods and his men refurbished two fairways this summer. Nine others get work this summer. Jubilee suffered devastating compaction during World War II as an an army equipment parking lot.

The 'perfect' green

Of note, Woods considers the 8th green of the Jubilee his "perfect" green. "The hungrier I keep it, the better it gets," he says.

Two mechanics and 23 other grounds personnel help Woods. Summer sees the addition of 10 additional men. Some, including Americans, see it as an excellent training ground.

Says Woods, "I'm putting young lads out to be head keepers all over," an indication of the open-door policy which remains here in the Kingdom of Fife. "Interviews, that's one thing I don't refuse to do," he adds.

The ghosts of golf's rich heritage surround this genial Scot. It's a safe bet they're smiling at the way he keeps their memories alive for today's player. **WT&T**

Today's golfer still finds challenge on these ancient seaside links at St. Andrews.

St. Andrews: golf's cussed shrine

by Ron Hall, associate editor

Delicious orneriness lolls in a crooked swath of linksland off Scotland's wind-swept North Sea.

Golf's home. St. Andrews. The "auld grey toun." Time-stained buildings. Sand. It all began here more than 900 years ago on this sloping tip off the Fife Peninsula.

"The most important work we do is keeping the course as it has been for hundreds of years," says greenkeeper Walter Woods. "Our biggest fear is

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LANDSCAPE PROFILE *continued*

keeping the courses from turning inland." That means preserving St. Andrews "in seaside links condition," a delicate balance of fescues and bentgrasses.

That's a task at this cantankerous stretch of greensward. It's this cussed wind-whipped sand and grass that's also its glory.

In the beginning.

Take a long stretch of sand. Let the gales play it until it's an incomprehensible pattern of swales and low sweeping dunes. And cover the whole with a rich cover of turf, whin, and heather. No trees.

Now you've got something. Oh, don't forget the sheep. Let 'em wander where they will. When that wind blows though you'll find 'em huddled behind a rise. Not likely you'll be able to grow much there. Bunkers they'll be.

This sandy linksland abandoned by a retreating sea attracted *strikers of the ball* as early as 1100 A.D. This is the Old Course. They've been playing golf here ever since. Disregard a 1457 edict by the Scots Parliament forbidding *gowf* and demanding archery practice. The Scots did.

But, sure, some things have changed. The game itself changed in the 15th century when Scots started hitting the ball to holes and not objects. The ball? It evolved in 1600 to the feather-stuffed "featherie", again in 1848 to the gutta percha, and finally to today's dimpled compression.

And wooden ships filled with rock were sunk as a barrier to the sea. Captured sand allowed the manmade shaping of the New Course in 1895. Ever-increasing numbers of golfers justified construction of the Jubilee Course on even more recently claimed duneland, and finally the flat Eden Course came into play in 1912.

They're all part of St. Andrews, but the Old Course remains. Change there is so uncommon as to be marked in centuries.

In 1764 the Old Course was reduced from 22 holes ("the number of shots in a bottle of whiskey," says a proud local) to 18. The doubling of the size of the greens in 1832 speeded play. It was about this time also that fairways on the Old Course grew to their present size. Previously, they'd been narrow, no more than 40 yards wide.

This century, irrigation was introduced to the course, tees and greens in 1964, fairways in '77.

Sheep don't graze on the links. Towns folk don't bleach their linen along the fairways anymore, but the Old Course retains its stubborn personality.

"We went past some acreage that was so raggedy and beat up that I was surprised to see what looked like a fairway amongst the weeds," Sam Snead once said of St. Andrews. "Down home we wouldn't plant cow beets on land like that. Until you play it, St. Andrews looks like the sort of real estate you couldn't give away."

Today's golfer can be surprised by St. Andrews' appearance. It's only because golf courses are designed, built, and manicured with such precision now. Prior to 1800, golf courses weren't constructed. They were discovered. Then they were played on.

Golf's popularity spread anyway, first into neighboring England and Ireland, finally worldwide. Even so, rulemakers continued to look to St. Andrews for guidance and inspiration.

That guidance comes from St. Andrews Royal and Ancient Golf Club, not the first club (that honor goes to the Honourable Company of Edinburgh Golfers), but the best known. The R. and A. dates from 1754 when 22 noblemen and gentlemen joined as the Society of St. Andrews Golfers. Today membership in the R. and A. numbers 1800, about a third of them overseas.

Said the late Bobby Jones, the most beloved American to have played St. Andrews and well known in the R. and A.: "I began to see her as a wise old lady, whimsically tolerant of my impatience, but all the while ready to reveal to me the secrets of her complex being, if I would only take the trouble to study and to learn."

Jones knew St. Andrews well. In 1930 he put together his unequalled "Grand Slam." One leg, the "Amateur" was played on the Old Course, and that a few years after a frustrated and embittered Jones stalked off the same course in midround. □

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Dyclomec® makes the difference

The grass along the fence in the photo at left was killed with a fast-acting systemic post-emergent herbicide. Obviously, no professional groundskeeper could abide this ugly mess, so the dead vegetation has to be removed with expensive hand labor. The systemic product is recommended for lawn renovation, so vegetation naturally will grow back as new seeds germinate, resulting in an endless cycle of retreatment, ugly dead vegetation and more hand labor. Clean up a fence line with Dyclomec Broad-spectrum Granular Herbicide and vegetation will never again be a problem, because an annual preemergent application of Dyclomec will form a vapor barrier and keep the area absolutely clean. Easy to apply with an Acme® Spread Rite®G.

Dyclomec® turns Problem Areas into Beauty Spots

Read how the Dyclomec® vapor barrier eliminates repeated investment of hand labor to clean out dead vegetation:

Dyclomec Broad-spectrum Granular Herbicide is surely the most efficient herbicide ever offered to professional landscapers. In fact, it is called the *landscaping herbicide.*

Now, at last, the groundskeeper can easily and economically achieve that manicured look which consists of contrast: of sharply defined areas where immaculate turf is contrasted with areas of beautiful, naked earth. Where ornamentals grow in an area of beds that are free of any distracting growth.

Until the advent of Dyclomec, such pristine landscaping could only be achieved with repeated investments of hand labor to clean out dead vegetation resulting from an endless cycle of regrowth and retreatment with a systemic herbicide.

But once an area has been cleaned up with Dyclomec, hand labor to remove dead vegetation will never again be necessary because an annual application of Dyclomec will keep the area absolutely clean.

On the right-hand page are step-by-step illustrations of how Dyclomec works. Understanding its principle will help you discover the many labor-saving, money-saving ways it can help you in landscape maintenance, and in other areas of vegetation control.

We urge you to read it carefully and call us toll free if you have any questions.

Aquatic or industrial vegetation control problems?

The Dyclomec formulation is also available in 10G under the name Acme® Barrier.® It is excellent for aquatic weed control; for industrial areas where it's important to control weeds throughout the year without harming ornamentals; and for use under asphalt.

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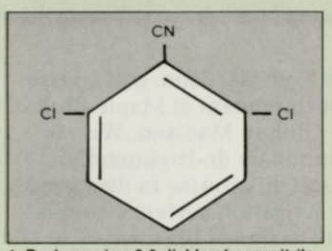
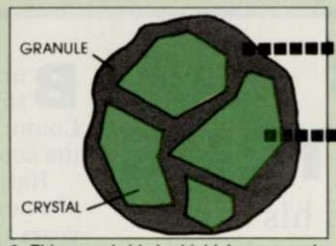
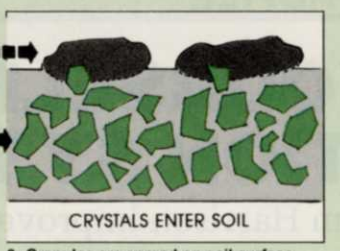
How Dyclomec controls weeds and grasses without harming ornamentals



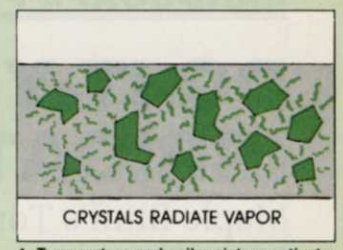
1. Dyclomec is a 2,6-dichlorobenzonitrile, commonly known as Dichlobenil. This unique herbicide goes directly to a vapor stage without going through a liquid stage. It is activated by temperature and soil moisture.



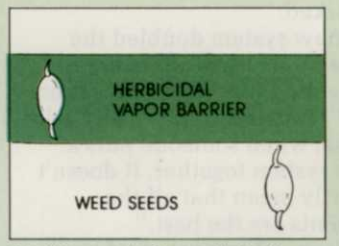
2. This remarkable herbicidal compound of razor-thin crystals is uniquely processed by PBI/Gordon to make a precise granule.



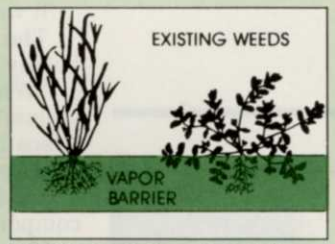
3. Granules are spread on soil surface. Moisture carries the Dyclomec crystals into the upper layer of soil. Because of adsorption by soil particles, lateral movement is minimal.



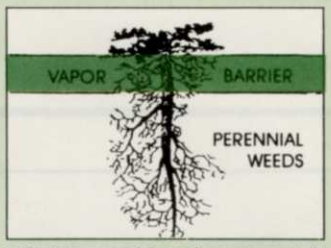
4. Temperature and soil moisture activate the Dyclomec crystals and they begin to radiate a herbicidal barrier. This continues for an entire growing season, and the spent crystals disappear, leaving no residue.



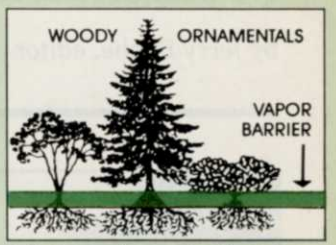
5. In this vapor barrier, no plant cell division can occur. Seeds trying to germinate in the barrier will die. Sprouts below this zone will be killed as they try to penetratre the barrier.



6. Existing vegetation such as shallow-rooted grasses and annual weeds having root structures in this barrier will likewise be affected and die after two to three weeks.



7. Certain perennial weeds coming out of dormancy and attempting new growth within the Dyclomec barrier will run into the same dead end: they will be killed by the vapor.



8. Dyclomec, when used as directed, does not affect nursery stock such as shrubs and trees that have deep roots extending well below the herbicidal vapor zone.

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Do you have any questions about Dyclomec?

Dyclomec is an exceptionally versatile material and can be used in so many different situations. If you have any questions we invite you to call Glenn Munger, the product manager for Dyclomec at PBI/Gordon.

Glenn is generally recognized as the leading authority on Dyclomec in the United States, and his help is yours for the asking. Call anytime during office hours.

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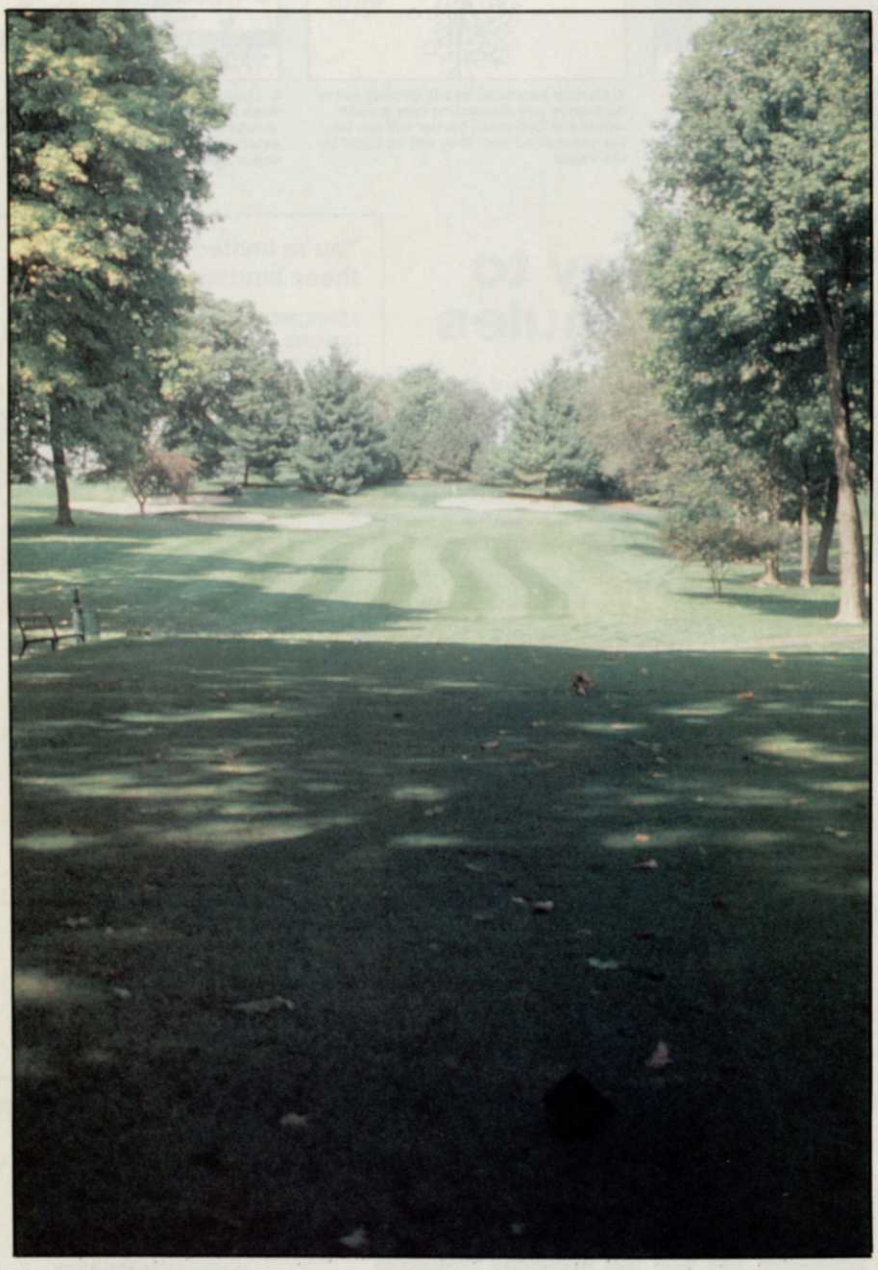
DO-IT-YOURSELF IRRIGATION SYSTEMS

Maple Bluff's Tom Harrison improved his course 100 percent with an irrigation system combining Rain Bird valves and heads with Toro controls. He designed it himself.

by Jerry Roche, editor



Maple Bluff's par three, 11th hole.

Burly Tom Harrison, golf course superintendent at Maple Bluff Country Club in Madison, Wis., is the consummate do-it-yourselfer.

Harrison, his course in dire need of a new irrigation system a couple years ago, designed his own. Combining Rain Bird valves and heads with Toro VT3 and IBM PC controls, he replaced the old center-roll, quick-coupler system.

It worked.

The new system doubled the beauty and health of his course.

"Why did I hybrid the irrigation system?" Harrison rhetorically asks. "Because, when someone puts a package system together, it doesn't necessarily mean that all the components are the best."

Harrison, whose only turfgrass education has been on his hands and knees trying to figure out what makes grass grow best, didn't design the new irrigation system by himself. He enlisted the help of literally hundreds of friends and consultants. He had to. The system cost $293,000, and even exclusive country clubs don't like to dump that much money out the window.

"We had people from California finding out we were spending that kind of money and breathing down our necks," Harrison remembers. "But I wanted to get people from this region because it's much easier to get replacement parts and service."

He initiated inquiries in August, 1983. Eleven months later—the day before Independence Day, 1984—the system was operational.

"First, you have to look around at what works and what doesn't work with other people," he notes.

Harrison's initial design was first approved by Peter Beaves of Midwest Irrigation, Dubuque, Iowa.

"I didn't put the job out to bid," Harrison says. "I investigated to see what the going rate was. Then I hired Midwest, the premier irrigation contractor in the country. It wasn't worth trying to go with a low-baller.

"Peter gave me a computerized printout of all the courses he's done in the last 20 years, and one of them was Augusta National. That was good enough for me."

Harrison's design then went into the computer of an irrigation consultant, who was paid $2,000 to find any flaws. Finally, Harrison went to Reinders Brothers distributors, who agreed to put the

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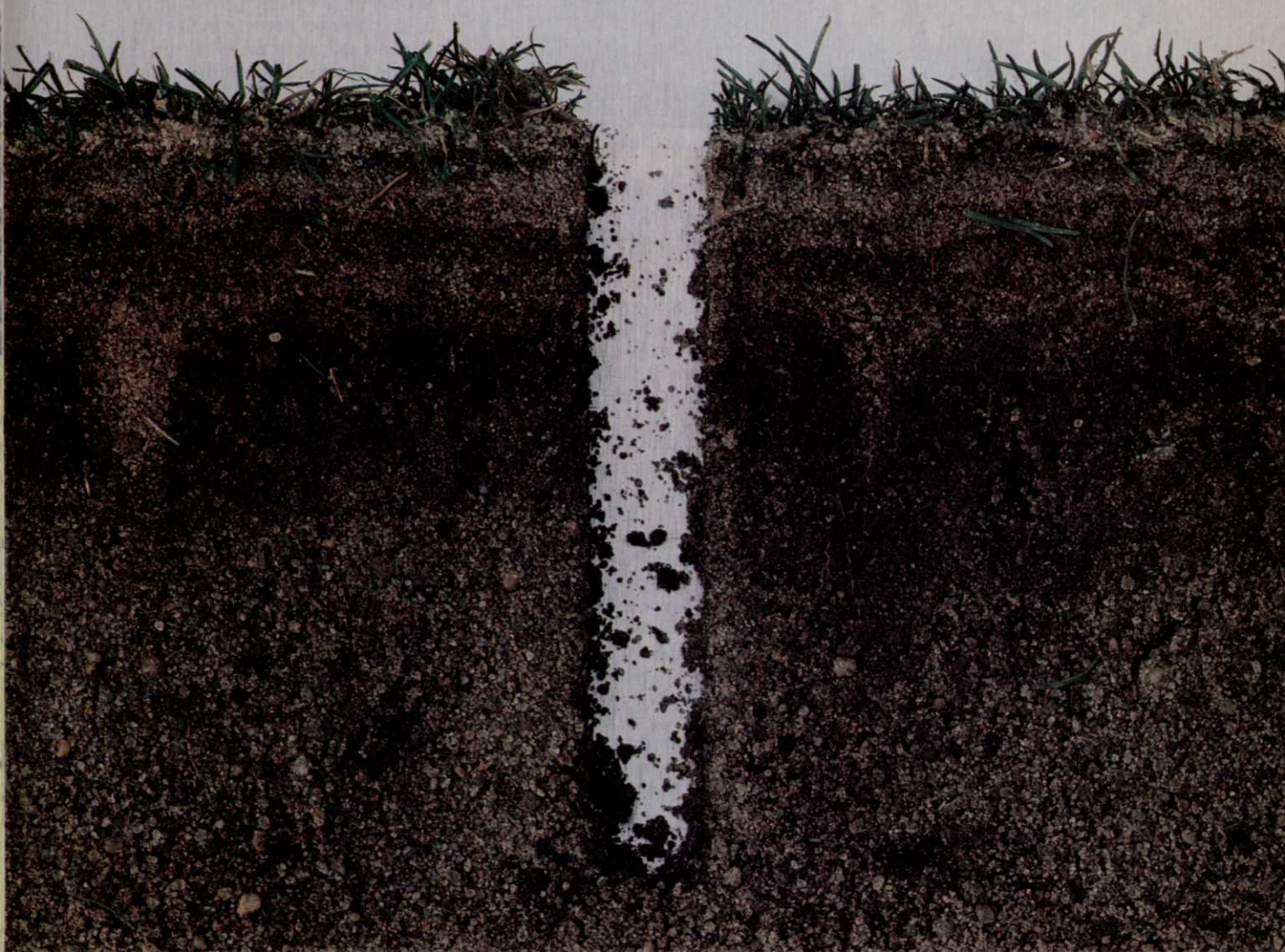

Tom Harrison, club superintendent, Maple Bluff County Club.

design through another computer in exchange for purchasing equipment from them.

"We ended up with four opinions," Harrison says. "Except for the size of the pipe—I had sized pipe bigger than it needed to be—there wasn't a single thing we changed."

Club members supported Harrison.

"The members don't expect poor business decisions or anything that isn't done right," Harrison observes. "Money is one of the hurdles that is easy to get over, compared to that. The members didn't see in the cost one big figure to pay a landscape architect, but I assured them that I had the best contractor and the best price. That's the way we do everything here."

Harrison and his staff designed and erected the pump building in January, 1984. L.W. Allen installed the three-pump systems capable of delivering 1,400 gallons per minute.

"Everything we did was geared toward saving energy," says Harrison. "We even put time-of-day use meters on the electrical system to get the cheapest rates."

In March, 1984, pipe went underground and pumps installed. Four months later, Harrison turned on the system.

"The biggest problem was that—when we started—we didn't put strainers on the pumps and they got clogged with a couple small bullheads," recalls Harrison.

But things are running perfectly today.

"We've had probably a 100 percent improvement in the course," the superintendent observes. "There is no more overwatering, there aren't any dry areas, and water usage is about 60 percent of what it was. The members are just delighted because there was no downtime.

"A dry year like this will bring out the bad in the system. We haven't had any problems."

Harrison received much of the experience necessary to tackle this job as a part-timer at Madison's Nakoma Golf Course. He then enlisted in the Navy and became a Seabee engineer.

"But I didn't like the indoor part of engineering," Harrison observes. "As a student working at Nakoma, I realized I liked being outdoors better."

He started at Maple Bluff in 1967, became its superintendent in 1976.

During the 1970s, Maple Bluff hosted the Women's Western Open and the state amateur tournament. In 1987, it entertains the state amateur again. One state event is held there each year.

Harrison has four full-timers on his staff: two assistants and two mechanics. Five additional persons are hired in the spring; and from June 1 to September 1, the staff numbers 16. Besides the golf course, Harrison's crew maintains tennis courts, a pool, and the entire country club grounds.

Problems are minimal.

"The people working for me are a piece of cake because they're good kids who are tickled to have a job," says Harrison. "And the members aren't a problem compared to most clubs. They're understanding.

"The course itself isn't too much of a problem. Fairway management is now on a strictly preventative basis. We don't waste material. We're very, very picky. From being on the course, I know the cycles of problems.

"But I don't like surprises, and Mother Nature is always throwing them at you. It's the one thing that's hardest to deal with," he says.

There is another problem, too: "probably the biggest one is my own inner drive to survive a summer without losing any more grass than what's on my desktop," he says.

This same trait helped get the Wisconsin Turfgrass Association formed on Oct. 11, 1980. Harrison was one of 11 founding fathers, and is the current president. The organization donated $30,000 to turf research last year.

"We're trying to create an awareness of turf at the University of Wisconsin," Harrison notes. "Turf research in Wisconsin was headed down the tubes before we got started. We're succeeding and getting a great reception from the ag department."

It probably helps that one of Maple Bluff's members is football Hall of Famer Elroy "Crazylegs" Hirsch, Wisconsin's athletic director. Not that help is needed: visitors to the course are often amazed at how beautiful turf can be.

It's truly a green monument to Tom Harrison, do-it-yourselfer extraordinaire. **WT&T**

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A TULSA TREASURE

You don't need to be an engineer to figure out that Southern Hills is a top-flight golf course.

by Ken Kuhajda, managing editor

With a degree in metallurgical engineering and a reserved seat in law school, you'd expect Bob Randquist to be fighting traffic to get to his big-city high-rise for work each morning.

Or at least be a member of the wool suit, oxford shirt, silk tie, and loafer gang. Or at least drive a BMW.

However, Randquist doesn't fit into a nice, neatly-wrapped category. He's not doing what you would expect someone of his age and education to do. He chooses turf over concrete, Cushmans over BMWs, open space over office space.

You can find him 12 months a year at prestigious Southern Hills Country Club in Tulsa, Okla., studying turf instead of metals.

He's been Southern Hills superintendent since December, 1979, directing a crew of 14 in preparation for events like the PGA Championship in 1982.

His big decision

While a student at the University of Oklahoma, Randquist worked for several golf courses during summer months, developing a fondness for the work.

"After I graduated, I had the chance to take a job as assistant superintendent with Trosper Park Golf Course in Oklahoma City," he says.

There was a good chance for advancement, which made the offer even more appealing. Strike one.

His degree in engineering meant he would probably have to move from his beloved Oklahoma to the big city. Strike two.

Wife LaVada still had another year of college at OU. Strike three: an engineering career was out.

Bob Randquist stayed home, eschewing job offers in Houston and St. Louis, to work at Trosper.

Once an Oklahoman, always an Oklahoman.

"I've certainly never regretted it," says the 35-year-old. "Three years after I started at Trosper, I was accepted into law school (at OU) but didn't attend."

'Being a player and involved in the maintenance end, I see things that I didn't see before. It makes it hard for me to concentrate.'

—Randquist

By that time, he bled green, raptured by golf courses.

"I love the work, I love the game of golf," says the former 1-handicapper, now a 6. "I'm glad to be involved with it. I guess my only regret is the fact that I don't get to play enough."

When he does play, he sees things differently. "Being a player and involved in the maintenance end, I see things that I didn't see before. It makes it hard for me to concentrate while some guys can shut it out. I'm not one of them."

While golfing, he spends more time looking over a stress area than planning his approach. But he still enjoys playing—he holds his own against club members.

The course

Whether working or playing, Randquist enjoys the outdoors.

"What appeals to me about this business is that you get to see the results of your work," he says.

He also gets spiritual fulfillment. "I really have a deep sense of appreciation that I have the chance to do what I do. It's a chance for me to be a steward in part of God's creation."

His piece of God's creation is located in south Tulsa, nestled among the rolling hills of northeast Oklahoma.

It's truly a fine course, one requiring both strength and finesse to score. Well-known in golf circles, Southern Hills has hosted two U.S. Opens (1958, 1977), two PGA Championships (1970, 1982), the U.S. Amateur (1965), and U.S. Women's Amateur (1946). *Golf Digest* ranks it 11th among U.S. courses.

It's not a long course (6,862 yards, par 70 at tournament time), it's not visually intimidating, but it can eat you quickly.

At tournament time, any shot in the rough (a mix of common bermuda, bluegrass, and ryegrass) almost assures the golfer of a bogey. The tight fairways are easy to miss.

At times, you can hit the fairway but not a particular spot and end up with a bogey.

The course's 3,500 trees come into play frequently. Despite its serene appearance, Southern Hills can spell disaster for those off their game.

Some say the first three holes (all par fours) are the key to winning a championship at Southern Hills. Numbers 1, 2, and 3 (447, 459, and 406 yards, respectively) call for accuracy right out of the shoot. An errant shot and even a pro is looking at a six.

Numbers 4 through 7 are considered fairly easy holes for the pro, perhaps a break for what lies ahead.

Hole number 8, a 215-yard par three, features a tight fairway, sloping green, and three strategically placed traps. Accuracy off the tee is paramount to solving this hole.

Numbers 9 through 11 allow the golfer a brief rest before tackling perhaps the course's most famous hole.

Number 12: 445-yards, par four.

Both Ben Hogan and Arnold Palmer picked number 12, a dog-leg left, as one of the country's top par fours. A tee shot has to dissect a group of trees and land on the right side of the fairway for a long iron approach to the well-guarded green. Three deep traps and a pond add to the challenge.

When and if the golfer makes it past 12, he's faced with the course's longest par four, number 13 (465 yards, a 537-yard par five for members), a par three with six bunkers, and number 15, a par four, slight dog-leg left with three traps

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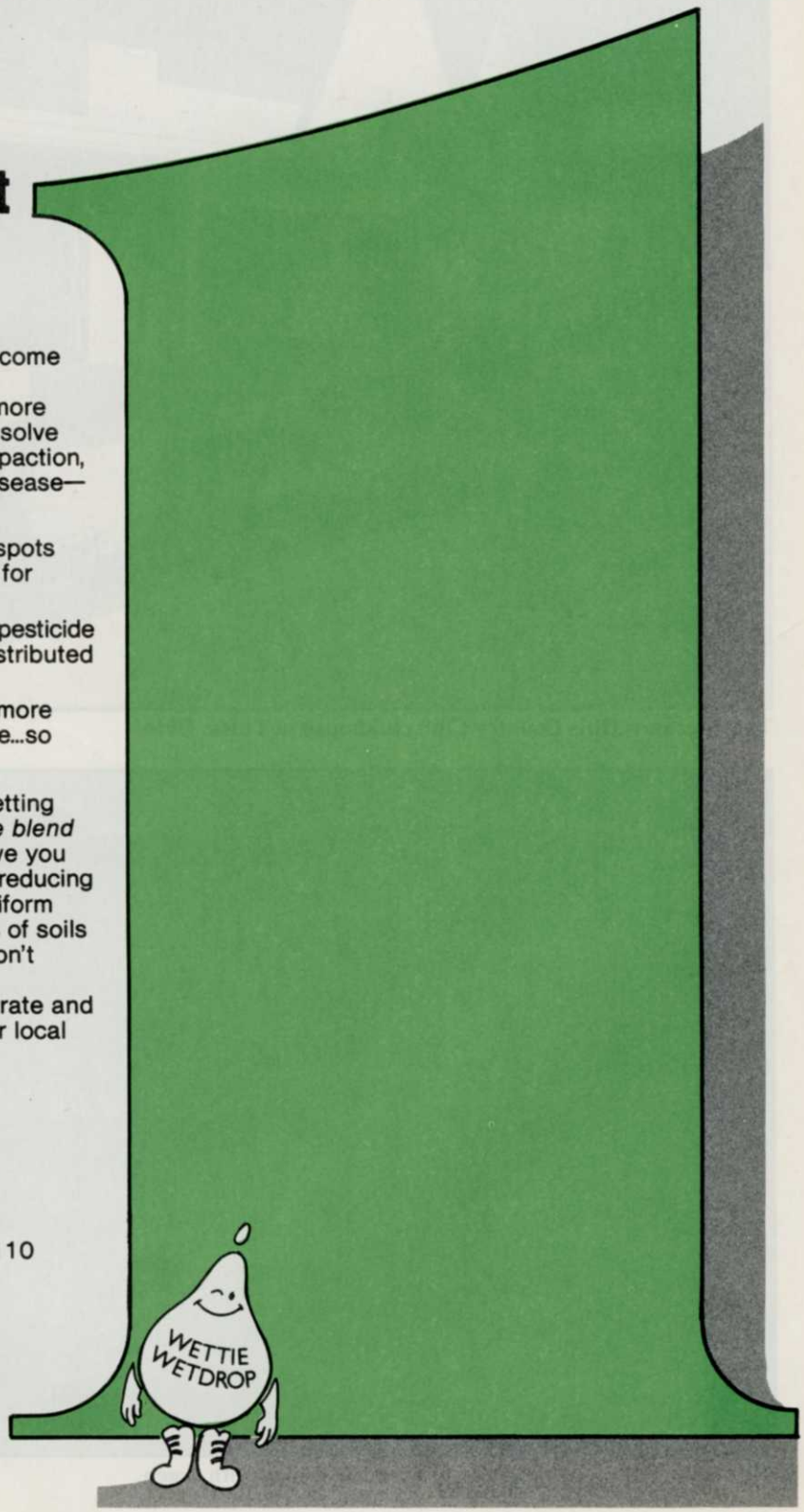

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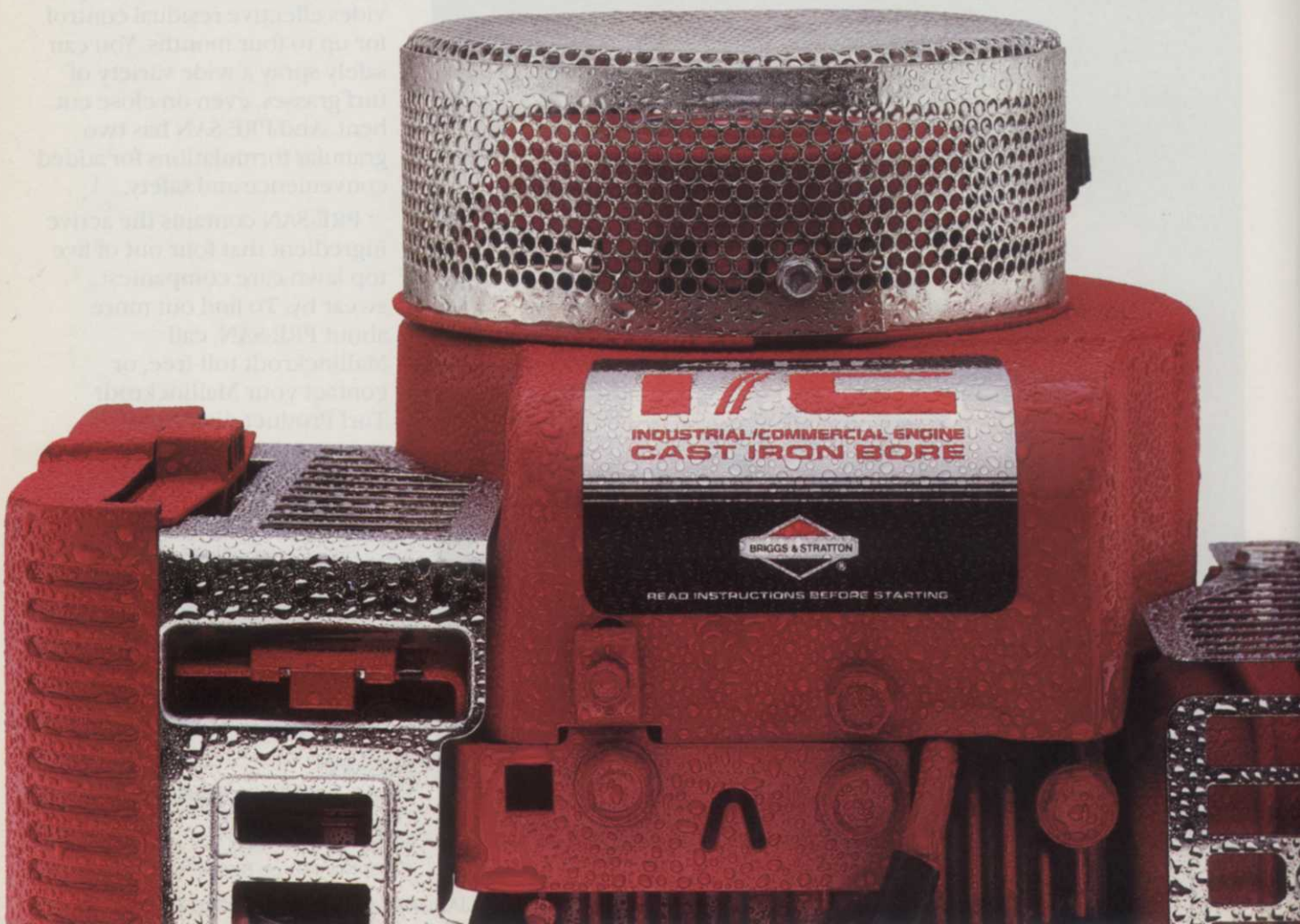

per mower.

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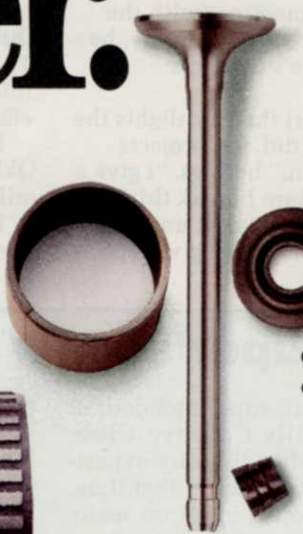

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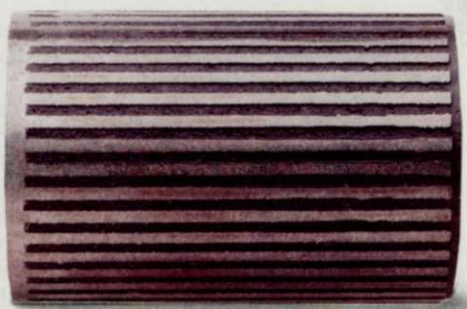

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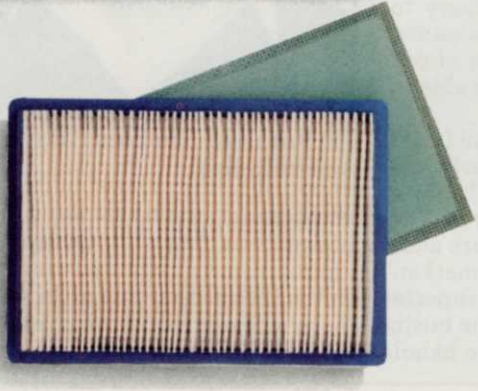

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tightly surrounding the green.

Sixteen is a birdie hole, a 569-yard par five, that typically plays downwind.

Number 17, the course's shortest par four (354 yards), requires a perfect tee shot for an approach to a shallow, hard-to-hold green.

The finishing hole, a 434-yard par four, is a severe right dog-leg, where an idyllic tee shot is required to reach the plateau green.

The smallish greens average just 4,800 square feet. Southern Hills is no picnic for both pros and 900 members, who average 30,000 rounds yearly on the 175 acres.

'I love the work, I love the game of golf... I guess my only regret is the fact that I don't get to play enough. (But) being a player and involved in the maintenance end, I see things that I didn't see before. It makes it hard for me to concentrate.'

—Randquist

Public relations

Randquist, on a tour of the course, knows most faces he passes. That's intentional. "I eat lunch with them every day, which I feel is a real positive public relations move," he says.

His monthly meetings with the greens committee run smoothly, he says, provided he's done his homework.

"I give a report that highlights the major things we did, the projects we're working on," he says. "I give a future report where I break things down into 30-day, 60-day, and 90-day projects. As long as I give reports and stay organized, the meetings go smoothly."

As long as the club thrives, Randquist is in an enviable position. He has carte blanche over purchase of equipment and supplies, hiring and firing, and employees' wages.

He has a crew of 14 with two assistant superintendents: John Babe and Scott Mendenhall. Jim Lucius is the club pro.

Quiet efficiency

The 1982 PGA official program offers this description of Randquist: "quiet efficiency."

It's an apt account of the reserved Oklahoman with the gentle eyes and mild disposition.

He knows the game, he knows every inch of Southern Hills, he knows his capabilities.

His programs work well but you'd never see him pat himself on the back. The members, who hired him in December of 1979, do plenty of that.

He reseeded all greens in September, 1984, with Penncross bentgrass and little fanfare. He's nurtured those greens through the intense heat of an Oklahoma summer.

He has the course playable 12 months a year despite the unpredictability of an Oklahoma winter.

Southern Hills continues as one of the country's top courses under his superintendency. Not bad for a guy with a degree in metallurgical engineering. **WT&T**

A super's view on golf: then, now, tomorrow

Bob Randquist, superintendent at Southern Hills Country Club, Tulsa, Okla., has 16 years experience on golf courses. In that time, he has developed ideas on many topics. Here's a nutshell report:

Wages: "My feeling about my crew is that I want to pay them enough to keep the ones I want to keep."

Chemicals and supplies: "We buy in January and February to take advantage of the discounts. With the financial position of our club, we're fortunate to be able to do that."

GCSAA: "The real core of information for anyone in the turf business. GCSAA has always been in the forefront with its research. The meetings are a great chance to meet people, share and exchange ideas, find out the latest thing on the market."

Agronomy degrees for superintendents: "It's more important that people in the business have a degree in something. It shows they've handled the work. But not having a turf degree has never hampered me."

Bob Ranquist, Southern Hills club superintendent.

His job: "It would be real difficult to leave here. One of things that attracted me was the fact that since Southern Hills was built (1935, with Perry Maxwell as architect), it's only had five superintendents and the one before me was here only two years. That shows stability."

Enjoy most about job: "No question—being outside."

Enjoy least about job: "The variability of golfers. We try to walk that line where we make the majority of the players happy."

Biggest challenge: "Getting maximum production from employees: doing it economically but doing it first class."

Another challenge: "Making the general golfing public aware of our efforts and our role in the game. We've got to do a better job. The golfing public has no idea of how important a superintendent is."

—Ken Kuhajda

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EVERYTHING'S COMING UP ROSES

Improved drainage and timely renovations allow The Rose Bowl to head into its 64th season with its best face forward.

by Kent Kurtz, Ph.D.

William L. Leishman didn't realize on that warm August afternoon in 1900 that someday his dream would be enjoyed by 75 million people annually. Not on that day when, as president of the Tournament of Roses Association, he hiked the dusty Pasadena hills and looked down on the Arroyo Seco.

He saw a city dump. Also, he saw a rocky area that might be a good place for a football stadium.

Now 85 years later, Leishman's son Lathrop and two grandsons are members of that same Tournament of Roses Association.

Lathrop accompanied his father by train to New Haven, Conn., to visit the famed Yale Bowl where the Rose Bowl dream took shape. The elder Leishman, impressed, said: "This is the kind of stadium we should have in Pasadena," his son remembers.

William Leishman's dream became reality in 1922. He, architect Myron Hunt and builder William Taylor gave the people of Pasadena a football stadium in the Arroyo Seco. Not a bad seat in the house. That trio was determined to bring the game to the spectator.

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Dr. Kent Kurtz on the Rose Bowl surface.

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Most market research people agree that there is virtually unlimited growth potential for the lawn care industry during the next several years. But they always hasten to add that the key to profitable growth for the lawn care operator is going to be his ability to continually increase his efficiency . . . and since our future at PBI/Gordon is so closely linked to the future of the lawn care operator, we are continually searching for ways to improve the efficiency of the products we supply to the industry . . . as well as searching the world over for molecules that we can formulate into new products which can further contribute to increased efficiency.

What is the major bugaboo that challenges the lawn care operator?

It is weed control! You know it! Let one ugly weed appear and all of your efforts to operate efficiently are down the tubes. It can mean a call-back which, according to industry estimates, can cost up to $60, or it can even lose you a customer which can cost up to $80 to replace.

The old philosophy from the ag-chemical field that 70% control is *total control* just won't cut it in the lawn care industry. You cannot abide anything short of honest-to-goodness total weed control. But by the same token you've got to achieve it within the framework of a program that still leaves you a profit.

Thus your goal is the lowest possible cost per acre for immaculate, weed-free turf that can be achieved without call-backs.

YOUR GUARANTEE OF A TRIMEC® COMPLEX PROFESSIONAL QUALITY

And this is precisely why our research scientists at PBI/Gordon spent so many years searching for the elusive formula that could combine different esters with the ability to form a complex with dicamba and hold it firmly in place . . . the formula that is now known as Super Trimec.

There's no doubt about it: dollar for dollar and acre for acre of immaculate weed-free turf, Super Trimec is the most efficient post-emergent broadleaf herbicide on the market . . . period!

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"One of the nice things about a morning constitutional is encountering a lawn service company out beautifying the neighborhood. Here I am, at the crack of dawn, watching a Suburban Lawn and Garden operator treat a lawn. Suburban has a very successful lawn service company and Don Tannahill, Suburban Liquid Lawn Manager, insists that Trimec is an important factor in their success. He says that Suburban customers want nothing short of immaculate weed-free turf, and that Suburban management wants nothing short of worthwhile profits. Accordingly, Suburban uses Trimec to be sure both sides are happy."

Everett Mealman

Does this mean that Super Trimec is even more efficient than the old-reliable Classic Trimec?

Yes sir, that's exactly what it means. But let me make one thing clear. Super Trimec is not for amateurs. It's a professional product that needs to be handled in a professional manner. And, to express its maximum efficiency, it needs to be applied evenly at a rate that doesn't exceed label directions per acre.

So what about Classic Trimec? Will PBI/Gordon continue to make it?

Indeed we will. There's still a time and a place for Classic Trimec, just as there is still a place for 2,4-D. And because you're a professional, you'll know the time and the place to use both products.

Furthermore, we will continue our ongoing efforts to further improve the effectiveness of Classic Trimec and further reduce its cost.

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Among the new products that have been developed and thoroughly tested by PBI/Gordon, and are now ready to help the Lawn care operator improve his efficiency are Ferromec,™ a sprayable iron that produces turf green-up within 24 hours, and Bov-A-Mura,® a natural organic activator that turns thatch into humus.

You'll be reading about these new products in the trade papers. But in the meantime, if you would like to have samples of them, simply write to us or call.

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Ask for Customer Service Department.

Inform us of bids to be let.
We will furnish detailed specs and names of distributors serving your area.

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TURF HERBICIDE

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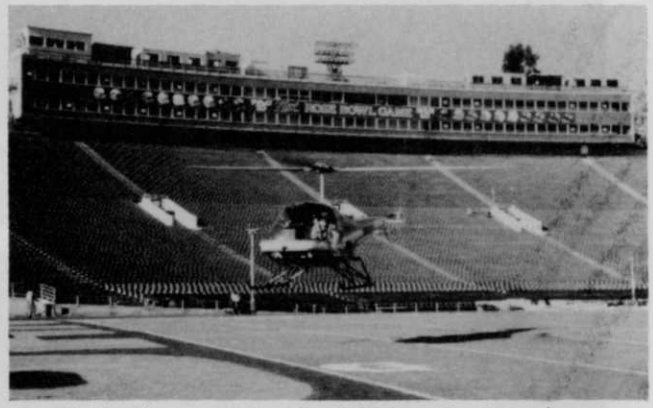
Setting up the field for an auto race.



A police helicopter dries the field last New Year's.

grass field, and home of the UCLA Bruins and the New Year's clash between the best of the Big 10 and PAC 10. The so-called "Granddaddy" of bowl games.

The 1985 Rose Bowl game

Preparation for the Jan. 1, 1985 Rose Bowl game. Hectic. Full of surprises. Complications arose as winter storms dropped cold rains on Pasadena.

Renovation began with vertical mowing, aerifying, removing plugs, and sweeping. Perennial ryegrass seed, pre-germinated in 55-gallon containers, covered the field. Brushes carefully dragged about 110 tons of sand over the playing surface.

But 50-degree temperatures hampered germination and growth of the ryegrass seedlings.

The staff grew anxious as January 1 approached. It considered a polyethylene greenhouse over the field and using gas hearters to warm the germinating seed. Instead, someone suggested the new polyester field-covers. They soon covered the playing field.

Soil thermometers, checked daily, indicated temperatures under the covers averaged 62-65 degrees compared to 48-51 on the uncovered sideline area. This warmth pushed growth of the perennial ryegrass. Fertilization and mowing followed within two weeks.

Intermittent rains kept the field wet though. Calcium nitrate fertilizer could not be applied to the moist grass. The painting of the end zones and the center of the field would be difficult too. Help came from the Pasadena Police Department which voluntered the use of a helicopter to dry the grass.

Game day and everything came up roses. Credit the covers which provided a warm environment for the seed, and the sand topdressing for dry, firm playing surface for secure footing.

Improvements for 1985

But even after the success of the Rose Bowl game, basic problems remained. The biggest was drainage which for 63 years depended on a 24-inch crown in the center, turtle-backed to the sidelines. Soil clogged the few catch basins along the sidelines. An engineer and a soils specialist joined the field improvement effort. They collected water infiltration and percolation data.

In the summer of 1985 test holes and soil samples showed that two feet beneath the turf surface lay the original Arroyo Seco gravel and sandy soil, good drainage material. However, the Rose Bowl topsoil contained a mixture of clay, silt, non-decomposed sludge and manure. Sod rooted in clay, installed prior to the 1984 Olympics, topped everything.

To provide drainage through these layers, workmen using backhoes dug one-by-two-foot trenches, spaced about 15 apart, the length of the field. The trenches were backfilled with medium grade sand. To help drainage further, workmen flushed the old catch basins with high pressure fire hoses and built four new basins.

With drainage in place, the Rose Bowl was ready for a motocross.

The renovation

Even though polyethylene and soil covered areas where motocross competitors battled, UCLA's first football game three weeks later demanded a complete field rebuilding.

Workmen removed the sod and all soil and debris. Roto-tillers churned the field to a depth of six inches before it was rough graded. Care was taken to roto-till lengthwise to maintain the drainage sand slits. Some humus, however, was added to these slits to ensure even turf color throughout the field. Next came installation of a 24-inch crown and final grading.

It took two days to lay Santa Ana bermudagrass sod. Frequent irrigation knitted the sod to the surface.

This particular sod had been contract-grown for the Rose Bowl by Pacific Sod, Camarillo, Calif. A special black turfgrass colorant sprayed over the stolon surface accelerated growth. The colorant absorbed heat. Company officials believe it resulted in a 25-to-30 percent faster spread of the bermudagrass.

Improved drainage and the well-thought-out field conversion provided the Bruins with a first class facility in 1985.

The challenge now? January 1, 1986.

The staff

All requests for events at the Rose Bowl must be directed to Constance Borg, Rose Bowl event coordinator. The Pasadena Board of Directors (city council) then must give its go ahead.

If the Board approves the event request, a contract (covering all phases of the activity from field maintenance to security) is drawn up and reviewed by acting Rose Bowl director Donald Hunt.

Rose Bowl field supervisor Richard Gonzales works directly under Hunt and oversees daily maintenance functions. Gonzales' staff performs the mowing, fertilizing, watering, aerifying, top-dressing, and other field preparations.

For large events—the Rose Bowl game, for example—a second turfgrass supervisor may be required. Pasadena's golf supervisor George Adge and his staff help with special field preparation, spraying or major renovation projects.

Coordination of maintenance schedules, advisement on agronomic practices, and evaluation of new materials and products are handled by Dr. Kent Kurtz, Rose Bowl agronomist and turfgrass professor at Cal Poly Pomona University, who works directly with Hunt.

THE PROBLEM

BEFORE: This homeowner's lawn has been attacked by a turf fungus called "fusarium blight." It is a major problem attacking thousands of lawns throughout the United States. This disease affects weak lawns under stress and spreads rapidly, often wiping out the entire lawn!

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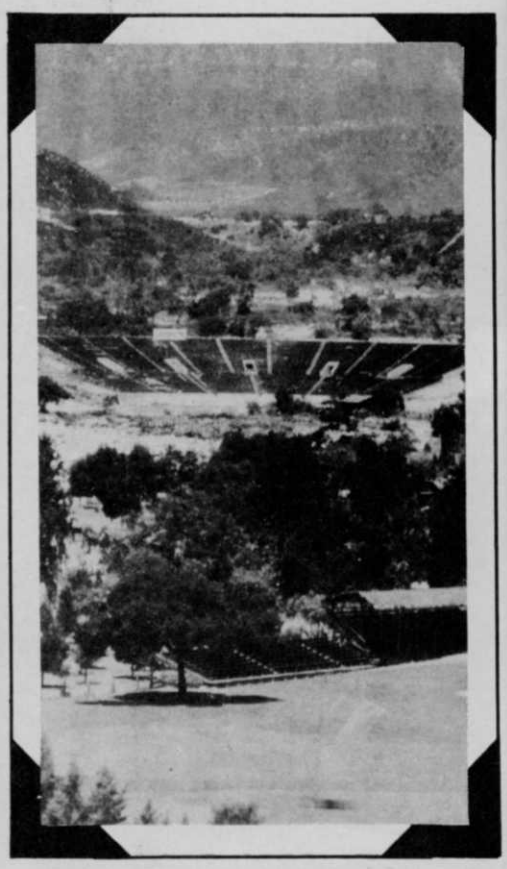
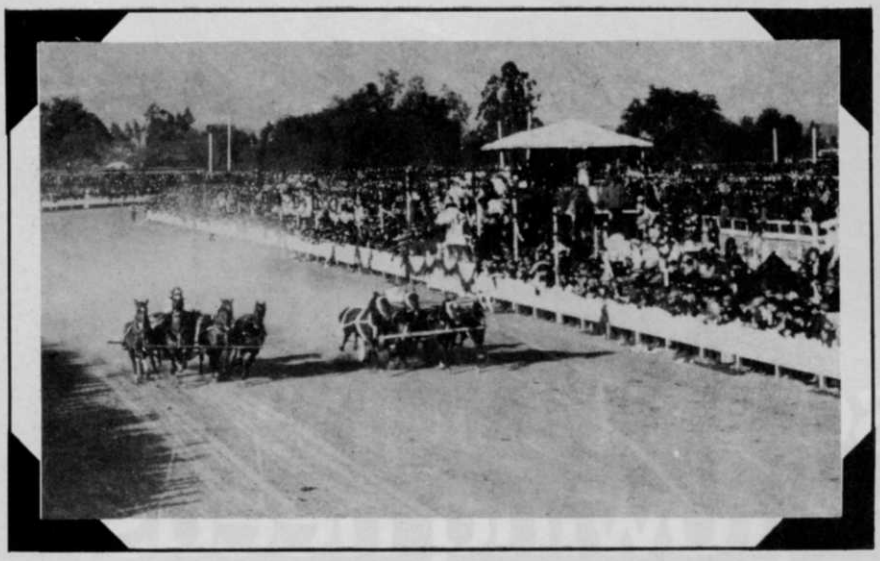
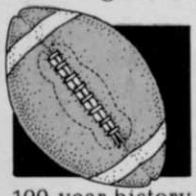




Rose Bowl sights: (upper left), an earlier football game; (left) the trotters invade the bowl; (above) the stadium under construction.

FROM GREASED PIGS TO PIGSKINS

Pasadena's annual Tournament of Roses offered unusual entertainment before finding football.



Millions of sports fans sitting in front of the tube watching a greased pig contest? Could have been.

That's one of the ways the Tournament of Roses Association celebrated New Year's Day in the beginnings of its 100-year history.

Football didn't enter the picture until 1890. Then it kind of sputtered along for awhile. Football, that is. The Tournament of Roses and its annual parade has always been a big deal.

In fact, the first intersectional, post-season college football game occured in Tournament Park (now part of the Cal Tech campus) in 1902. Michigan thumped Stanford 49-0 and thus began and ended east-west football rivalries for 14 years.

Polo replaced football in 1903, followed by chariot races a year later. From 1903-15 Pasadena saw bronco busting, track and field, ostrich races, and—yes—even a race between an elephant and camel.

It wasn't until 1916 that a college football clash between Brown and Washington State Universities cemented the New Year's Day tradition sponsored solely by the Tournament of Roses Association. And by 1922, when 49,000 fans elbowed into tiny Tournament Park, association officials knew they'd better plan for the future. That meant a bigger stadium, hopefully by the next game.

Work began on the Rose Bowl Stadium.

Volunteers raised $272,198 by selling seat subscriptions as construction teams, using horses to pull wagons and scrapers, cleared a section of the Arroyo Seco. Most of the work was hand work, picks and shovels. Hundreds of wheelbarrows carried yards of cement.

On Jan. 1, 1923, a capacity crowd of 56,000 saw USC take on Penn State in the first Rose Bowl game.

The popularity of "the granddaddy of bowl games" has necessitated improvements and renovations through the years.

By enclosing the south end of the original horseshoe and adding more seats, more than 105,000 spectators now enjoy the game annually. It's always a sellout.

Many legendary players and coaches—Pop Warner, Knute Rockne, the Four Horsemen, Ernest Nevers, O.J. Simpson, Howard Cassidy, Jim Plunkett—played here.

Many others brought fame to the Rose Bowl. Ten Heisman Trophy winners have appeared. Many other players have gone on to professional stardom.

—Dr. Kent Kurtz

NISSAN DUAL REAR WHEEL CAB & CHASSIS.

HOW NISSAN CAN HELP YOU PUT TOGETHER A WINNING COMBINATION.

A lot of business people are so busy doing business they never realize that the trucks they're using are the wrong ones. The wrong size. Often the trucks are simply too large for the needs of the business, and as a result they end up costing more to operate. That, however, is not the case with Nissan's dual rear wheel Cab & Chassis.

Nissan's compact Cab & Chassis can fit in with just about any business need. These are incomplete vehicles that can be outfitted practically any way you want with just about any type of body—stake bed, cargo box, dump bed, contractor bed, RV—you name it.

With its new sleek, aerodynamic look, Nissan's Cab & Chassis will also fit the image of a successful business. And with its dual rear wheels you have an extra pair of standard steel-belted radial tires to help support loads and to increase stability and traction. Plus, under the hood, there's a fuel-injected, 3.0-liter, overhead-cam V6 to give you the kind of power it takes to move an extra-large load.

Still another important advantage of Nissan Cab & Chassis is an outstanding 24-month/25,000-mile limited warranty on powertrain components. See your Nissan dealer for further details. And participating Nissan dealers now offer Security Plus,® an extended service program with term options ranging up to 60 months/100,000 miles.

For more fleet information see your local Nissan dealer today or contact our National Fleet Sales Department at Nissan Motor Corporation in U.S.A., 18501 South Figueroa, P.O. Box 191, Gardena, CA 90247

Let Nissan help you put together a winning combination. And remember, the quality is great...

Bodies pictured are not available from Nissan, but are available through independent suppliers.

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MONEY LOW AS A DROUGHT-STRICKEN IRRIGATION POND?

To fill the coffers during the off-season, landscape managers must apply fundamental credit strategies before, during and after a trip to the local bank.

by John B. Calsin, Jr.

Does this sound familiar? It is winter. You wish you could sit back in a comfortable swivel chair and relax with your feet up on your desk. But next to your boots is a pile of bills, your accounts payable. Nearby is the checkbook, your balance as low as a drought-stricken irrigation pond. Scattered here and there on the desktop, like the first few flakes of a forecasted storm, are your receivables. And the purchase agreement for the desperately-needed new tractor continues to stay in the "pending" pile because of lack of cash. What are you going to do?

Borrowing money is a tricky proposition. Many people think that getting credit is a right, but it is not: it's a privilege offered to those who qualify.

Approaching the bank

Depending on the bank or financial institution, loan qualifying requirements may vary some, but general guidelines are used by lending companies.

The landscape professional should be prepared to present to the lender the following:

- a written state of business (what you do, and how you get paid);
- three years of financial statements (balance sheets and income statements);
- list of receivables (include a list of your customer base, contracts for services, who they are and how much they pay);
- proposed plan of repayment in the borrowers' mind, if there has been no prior banking relationship; and
- willingness to comply with a visit from the banker to your company location or place of business.

If you are a new customer, there may be some additional requirements:

- personal guarantee of the individual (even if you are incorporated);
- a personal credit check;
- a list of business experiences, and other companies you've worked for; and
- savings accounts or certificates of deposit as collateral.

If enough money is not borrowed at first, it may not be possible to borrow more at a later date.

Anthony J. Poluch, Jr., commercial loan officer with the First National Bank of West Chester (Pa.), says to "prepare a business resume telling the banker what knowledge they have of the business." He also suggests having a list of clients, especially those under contract. The list should include names, addresses, telephone numbers and amount of the contract.

A business resume and a client list mean extra work for the borrower, but it shows the banker your willingness to help.

The borrower-banker relationship is also an important factor when discussing collateral. "Once we get a customer who has dealt with us for a couple of years, and shown the bank they can handle repayment, we may go ahead and start doing things unsecured, depending on the amount," Poluch notes.

Interest rates will vary depending on size of bank, market location, the borrower-banker relationship, and amount requested.

Accountants

Landscape contractors should not be afraid of accounting professionals. They should learn to work with accounts as a team, because they know what banks and lending institutions are looking for, and how to properly prepare the necessary forms.

While it's never good to borrow more than necessary—money seems to have a way of dribbling away, and must be repaid—individuals or business people often have a tendency to understate their net worth. When applying for credit, as one accountant says, "that is to their detriment." If enough money is not borrowed at first, it may not be possible to borrow more at a later date.

Optional credit sources

MTI Distributing, a Toro distributorship, is located in the Minneapolis suburb of Plymouth, Minn. Because of their northern location, president/general manager Jim Kaufman and vice president Glenn Rasmussen are familiar with possible off-season credit difficulties and cash flow problems.

Various financing plans, both through Toro and MTI, are offered to qualified customers. Kaufman and Rasmussen have some sound suggestions for someone considering an equipment purchase where financing will be necessary. The same rules could apply when approaching a financial lending institution.

John B. Calsin, Jr. is a freelance writer in West Chester, Pa. At different times, he has been on both sides of the credit desk, as a borrower needing money and a bank manager lending it.

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You know what you're looking for when it comes to maintaining your customer's lawns. And we've got what you're looking for in a wide range of flexible products.

Take our famous homogenous granules, for instance. Each contains a special chemical combination of nitrogen, phosphorous and potash, plus secondary and trace elements. So every plant comes into contact with every vital element, plus you get more even plant-food distribution, more economically.

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It can help put you ahead of your competition, too. From custom-designed turf care programs to a solid nationwide distribution network, **Lebanon** can assure you of knowledgeable, prompt service. And our entire range of proven top-performance products are developed to help you give your customers better lawn care where it counts. From the ground up.

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We'll send you a free copy of our agronomy manual at no obligation. And we'll tell you how we can start giving you and your customers better quality turf from the ground up. Call our **Greenline** today at 1-800-233-0628; in Pennsylvania, 717-273-1687.

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FINANCIAL STATEMENT

ASSETS	In Even Dollars			LIABILITIES	In Even Dollars		
Cash on hand and in banks-see Schedule 5				Notes due banks (sec.)-see Schedule 6			
Marketable Securities-see Schedule 1				Notes due banks (uns.)-see Schedule 6			
Non-Marketable Securities-see Schedule 2				Due to brokers—margin accounts			
Securities held by broker in margin accounts				Amounts payable to others—secured			
				Amounts payable to others—unsecured			
Real Estate Owned-see Schedule 4				Accounts and bills due on Automobiles			
				Unpaid income tax			
Other Personal Property				Other unpaid taxes and interest			
Loans Receivable				Real estate mortgages payable-			
Automobiles-see Schedule 7				see Schedule 4			
Cash value—life insurance-see Schedule 3				Other debts—itemize:			
Other assets—itemize:							
Vested Interest in P/S or							
Pension Plan				TOTAL LIABILITIES			
				NET WORTH			
TOTAL ASSETS				TOTAL LIAB. AND NET WORTH			

EXAMPLE

TERMS

■ *Financial Statements: a general term used to include both the balance sheet and income statement.*

■ *Balance sheet: also known as the statement of condition, and is a summary of the company's assets and liabilities on a given day.*

■ *Income Statement: for a specific period showing a company's income and expenses.*

■ *Profit and Loss Statement: (or P & L) another name for the income statement.*

"We would look at the fundamental merits of the credit worthiness of the person seeking help," Kaufman says. While some customers know how to approach the dealer and make it easy for the dealer to make a credit decision, Kaufman and Rasmussen feel most people don't know what information is needed. "They have no record of continuous years in business, and no balance sheet," they echo.

Kaufman urges people needing credit for equipment purchase to prepare a formal letter with the following sections, before going to the dealership:

- an introduction (who you are, how long in business, how long in the area);
- a statement of purpose (goals and directions of the company, plus plans);
- and an accomplishments section (what you have done).

"This then becomes a good statement of mission," says Kaufman, "and is a good sales tool for your next customer." Customers are becoming more discerning, and this is just another step toward presenting a professional appearance.

A final additional benefit of the letter is that it can help act as a plan or guide. Without plans or goals, you don't know where you're headed or how to get there.

"The customer should have ready a simple balance sheet, including figures on home ownership," Kaufman continues.

Often, the home is one of the major assets in the financial picture for many small or relatively new grounds professionals. An experienced dealer will recognize a thin financial presentation, but that does not mean the customer will not get financing.

"Don't be afraid to show your net worth," Kaufman suggests. Show how good your operation is; blow your own horn.

By preparing the suggested information for a dealer, you will have already some of the papers necessary when a trip to the bank becomes necessary. And the same statements can be used if leasing is being considered.

Jim Byrnes, advertising manager at the Jacobsen Division of Textron, Inc., says that financing is often available through manufacturers with leasing as an alternative.

The advantages to leasing, Byrnes points out, are:

- small initial cash outlay, preserving working capital for other activities;
- lease can be written with or without investment tax credit benefits, depending on the company's tax situation (this is another area where your accountant teammate may play an important part);
- payment flexibility can be arranged so there are no payments during slow months.

C's of credit

Banks have guidelines and restrictions to follow when making credit decisions. They are referred to as the *C's of Credit* by Edward F. Gee and Clifton H. Kreps, Jr., in their book "Analyzing Financial Statements, Fourth Edition." They are:

- Character: the willingness to repay, or the personal component;
- Capacity: ability of the borrower to repay, considering the condition of the business;
- Capital: sufficient other means of income or cash to repay;
- Conditions: the overall condition of the industry the borrower is operating in;
- Collateral: other items that may be sold to repay the loan, if some unusual condition arises.

While bankers often have some flexibility in a credit decision, the "character" element usually plays a deciding role. And that's the main reason to develop a good working relationship with your bank and banker.

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DANGLING THE CARROT

Incentive plans: whether or not they're right for you depends on what your long-term goals are.

by Rudd McGary and Ed Wandtke

Incentive plans are key elements in the continuing growth of many service industries. Most firms have at one time offered employees an opportunity to make money above the annual salary with an income plan known as bonus or incentive.

These plans are used in order to achieve goals that may not have been reached with standard compensation. In 1985 many lawn service firms abandoned the use of incentives for their workforce, learning the hard way that employees depend on that extra income as a total part of their compensation.

Thus, when choosing an incentive plan, you need to gauge not only its long-term impact on your company but also the compensation expectations and needs of your employees.

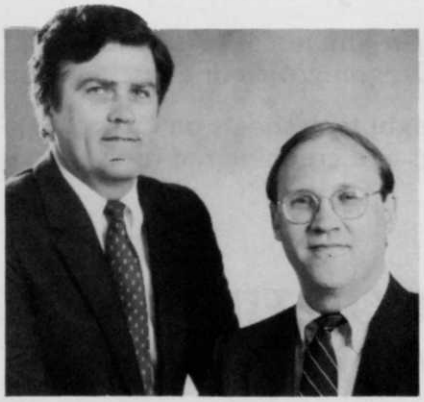
Incentive plans currently used in the green industries are either group or individual plans.

There are times when one type of plan is preferable but for most firms a combination of the two works best.

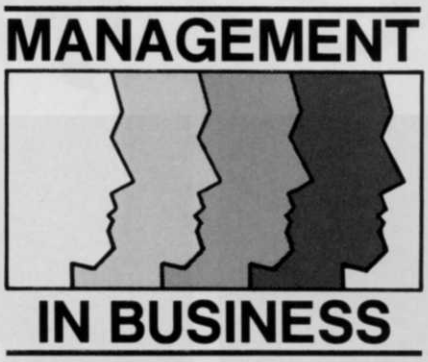
Individual plans

The customer growth plan compensates employees for increases in new customers. The compensation, usually in the $10-20 range per new customer, is spread over the fiscal year.

It allows for customers who cancel or do not take the full program and also helps assure employee retention.



Wandtke and McGary are owners of All-Green Management Associates, Columbus, OH



In maintenance and construction businesses this plan rewards employees with a percentage of the day's revenue.

Pros: All employees hustle to follow-up leads; cold sales calls become more acceptable to employees; customer call-backs to close a quote become more valuable.

Cons: Increased office record-keeping pressure; technicians may close sales not on their route resulting in potential problems if a customer cancels due to poor service; if plan limits a technician to only customers in their route area, plan may discriminate due to quality of potential customers remaining to be obtained; payouts may be so small that employees' interest is lacking.

Setting goals

Another plan involves an individual establishing yearly goals. Ideally these goals should be quantifiable so that both employee and management can agree on how and when they are to be accomplished.

The compensation in this system is set by management and should be based on the goals and their attainment.

The maximum possible compensation should be the same for each individual in the plan. Payoffs seen have ranged from $500-1,500.

Pros: Individual is in complete control of his or her own goal accomplishment; the incentive is sizeable enough to encourage employee involvement; route location or size of customer base does not affect one's ability to earn an incentive.

Cons: Employee dissatisfaction with plan can arise if significant differences exist in the goals for different employees; it takes a year to learn what the payoff for the year will be; due to the variability of goals, it may be harder to manage the company; record keeping can develop into a complex nightmare.

Performance plan

This plan rewards employees based on a mix of services performed each week or month. Various weighted factors are multiplied times the services an employee performs to determine a weighted work effort for the period.

Based on some published table, additional income is earned by the employee for effort over the base minimum performance criteria for the period.

Payouts usually are awarded monthly and range from 1-10 percent of a worker's pay during the period.

Designing this plan takes more time than with others but it seems to receive the greatest acceptance once implemented.

Pros: Frequent payouts resulting in a better motivated workforce; employees earn credits toward bonus payments for all duties performed in the course of the period; individual controls ability to earn better than average pay for services performed; individual can be motivated by peer pressure to increase performance to earn more money.

Cons: Periodic rewards may be so small that they fail to motivate; table of rewards can be set so high only one or two employees in a firm will earn any money in a given period.

Group Plans

The customer pay period plan pays an incentive for attaining certain customer levels at the end of a fixed period of time.

The current trends are to set

continued on page 80

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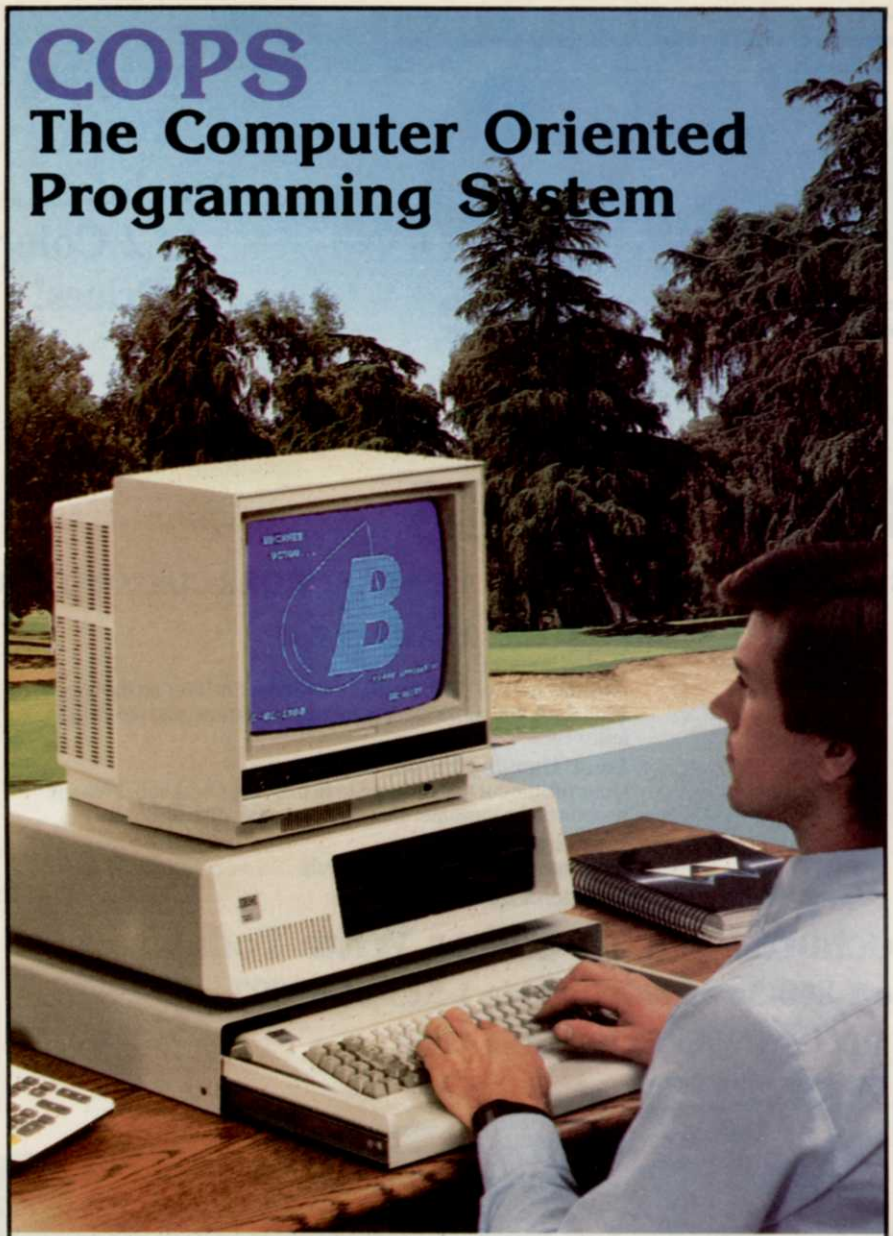

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Circle No. 109 on Reader Inquiry Card

INCENTIVES *from page 78*

payoffs at the end of April, July, and November. For lawn maintenance companies the fixed periods need recalibrated to correspond to the mowing season in your market.

The annual payment monies generally range from $250-1,000.

Pros: Team effort is necessary; office personnel can easily be included in this plan; periodic payments keep workforce motivated; payouts are financially significant.

Cons: Individual stars are treated just like everyone else in the payouts; plan may not recognize dynamic growth results in the super year; external forces can destroy any chance of rewards under the plan.

Direct profit

This plan rewards employees for meeting or beating the budgeted direct profit of a business for a month or longer period.

A percentage of the increased performance above the projected direct profit is shared with the employees. The payouts early in the work year are usually only a percentage of the total payment an individual would receive for the entire year.

For example, the direct profit amounts to $10,000 over projected budget for the first quarter. Employees would be entitled to l0 percent or $1,000.

However, at the end of this period only 20 to 30 percent of this compensation would be paid. The remainder would be paid out at the end of the year when final accounting is done.

Pros: Gets employees concerned with the profitability of company; involves the employees with more than revenue generation; encourages team effort of all individuals who may affect the direct profit line; provides periodic payouts to keep workers motivated.

Cons: May not drive employees to achieve customer growth goals desired; service quality is prone to deterioriate; payoff for stars may not keep the best personnel for the future.

Assessing costs

The key to choosing a plan is to assess the costs involved as well as the reason you want to put a compensation plan in place.

Usually the first is done but the second is forgotten. The plans should help motivate the employees as well as generate growth for the company.

Be sure that you are attentive to not only how to prepare a compensation plan but also to why you are installing a plan. Your company will benefit in the future. **WT&T**

That's an exceptionally strong statement, Ray. But let's start with the product. Is it something new? "We're talking about pre-emergent turf herbicide products using pendimethalin, and this is the first time they've been widely available to lawn service companies."

And you can back up that statement about Scotts® pendimethalin products being the best? "I sure can... with over six years of extensive formulation and field research."

What makes pendimethalin so good? "Its broad-spectrum action. Look at all of the tough grassy weeds it controls—crabgrass, goosegrass, foxtail, barnyardgrass, fall panicum, and *Poa annua*."

What broadleaf weeds does it control? "Oxalis, prostrate spurge, chickweed, cudweed, hop clover, henbit, and eveningprimrose. And soon we may be able to add to that list."

That sounds good, but how long does it last? "It provides excellent residual activity... four to five months for most weeds when properly applied."

How many species of turfgrasses can I use pendimethalin on? "Right now, it's labeled for use on nine species of established cool and warm season turfgrasses."

What forms does it come in? "Four. In addition to water-dispersable granules, we also offer three exclusive ready-to-use dry-applied products—a fertilizer/pendimethalin combination and two straight pendimethalin products—one for cool-season grasses and one for warm-season grasses."

And how much does it cost? "On a square-foot basis, the price is very competitive. Factor in the broad-spectrum action and residual... which should reduce callbacks... and Scotts pendimethalin products become an unbeatable value."

For more information about pendimethalin turfgrass herbicide, call Scotts Lawn Care Service Supply Division at 800-543-0006. In Ohio, call collect 513-644-2900.

Circle No. 153

"You can't get better pre-emergent control of grassy and broadleaf weeds... or a better value."

Ray Huey, Scotts project leader (Herbicide Research and Development), talks about **Scotts pendimethalin-based turf products.**

WATER.

That one word describes what could become the golf course superintendent's No. 1 concern. A GCSAA panel of experts recently hashed over the intricacies of water usage. Here's what was said.

by Jerry Roche, editor

"Water, water, everywhere—and not a drop to drink," goes the old saying.

But water, in this day and age, is decidedly *not* everywhere. Yes, there may be enough to drink. But it's getting tougher to justify large amounts of water to irrigate golf courses. As a matter of fact, it's getting so difficult that the Golf Course Superintendents Association of America recently spent half a day hashing over the problem.

At the GCSAA Mid-Year Turfgrass Conference and Show last September, a panel discussion on "Management Response on Water Crisis" was held. Nine water experts shared the podium.

"This natural resource is decreasing, and we definitely need a plan to stay in business," said moderator Gerald Faubel, of the Saginaw (Mich.) Country Club.

Five factors

Edward Horton of Westchester Country Club, Port Chester, N.Y., observed that water availability is reaching crisis stage because of five factors:

- the "suburban sprawl" has increased demand for water and pollution;
- money allocation is going toward anti-pollution research rather than availability;
- water facilities, on the whole, across the country, are old;
- costs of making water more readily available are high, thus a lack of incentive for new investments; and
- because of opposition from environmentalists, there is a general lack of incentive.

Horton, who serves with the Westchester County Drought Emergency Service, added, "Sources of water are the single most important problem I've been involved with since entering the industry in 1967."

Dr. William Thomas of the American Bar Foundation noted another problem affecting water availability: 50 percent of all public drinking water comes from groundwater, and groundwater legislation "is in disarray." Thomas, a member of the National Water Alliance, stressed the fact that the golf course superintendent has to "know more about hydrology than the local hydrologist," to work on educating the public and to support research on drought-resistant turf.

A groundwater 'code'

Katherine Jacobs of the Arizona Department of Water Resources described that state's Groundwater Code, which has been instituted to cut water use.

"One of the first ideas we're using is reducing the amount of turf and uncut roughs of native grass on golf courses," she said. "Taken a step further, you get into the concept of 'target golf.' "

Jacobs, a former Olympic ice-dancer, added that golf course superintendents are asked to: minimize the surfaces of lakes and ponds and lime them; reduce areas of overseeding (just tees and greens); control cart traffic; use proper mowing techniques and wetting agents; and—most importantly—oversee the proper installation and maintenance of irrigation systems.

She has received excellent cooperation from superintendents. "Working with them in our area has been a phenomenally positive experience," she concluded.

Reducing usage

Dr. James Watson of the Toro Co. offered some ways water usage can be reduced:

- Select plants that use and survive with less water.
- Support research that will introduce such plant species. "We believe researchers will produce more drought and heat-tolerant species within 10 years."
- Design new golf courses with reduced acreage of plants that need water.
- Use more mulch, "a tremendous adjunct to the conservation of water."
- Cultivate turf to ensure the infiltration of water.
- Use soil modification techniques to maximize the use of water.
- Closely monitor the irrigation system's efficiency.

"We need to know more about mowing," Dr. Watson surmised. "We need to know more about height of cut, frequency, and how it impacts on the various types of cultivars.

"It's gratifying to see the efforts being made to use effluent water. And I see a bright future for the use of saline and brackish waters."

Researchers speak up

Dr. James Beard of Texas A&M University, perhaps the foremost expert on turf water usage in the nation, was sitting in the audience. He was asked his thoughts.

"We have a long way to go," Dr. Beard said. "The objectives of 50 percent reduction (in water usage) are very realistic. I'm thinking 60 to 70 percent in the back of my mind as being achievable."

Dr. William Daniel of Purdue University, co-inventor of the Prescription

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The panel giving their observations on water usage problems in the green industry is shown here. Left to right, are: Paul Dermott, Jonathon Scott, Bruce Cadenelli, Ted Horton, Gerald Faubel, Dr. Jim Watson, Katharine Jacobs, Dr. William Thomas and John Ausen.

Athletic Turf (P.A.T.) system, was also called upon. He noted that home lawns should be designed to have moisture storage systems, and that improved rooting systems are the key. He also said that growth regulators may have some future effect on the efforts to reduce water use, and that "increasing reservoir systems is a possibility to go with increased water needs."

About legislation

John Ausen of Hyperion Field Club, Johnston, Iowa, and Bruce Cadenelli of Hollywood Golf Club, Deal, N.J., attacked the question of government legislation as it pertains to water usage.

"Some of our state meetings are raising an awareness that there could be a potential problem," said Ausen. "So we're trying to develop a conservation program of our own. And we've put together a survey showing that were *not* frivilous.

"The GCSAA is probably the group that will pull this all together."

Cadenelli said that water restrictions in New Jersey this summer affected nearly 50 percent of all golf courses. The government told superintendents that no watering of fairways was allowed, and that they could syringe for just 10 minutes in the evening.

This natural resource is decreasing, and we definitely need a plan to stay in business.

"The state made no differentiation among turfgrass uses," he said. "We've got to make our state officials aware of the differences in turfgrasses. And we've got to take a more active role in creating legislation that is kind to golf.

"Most of us have said that we could live with a 25 percent reduction (in water usage) and not adversely affect the turfgrass. We haven't made much headway in four years," Cadenelli concluded.

Though he was the first speaker, one of Horton's comments aptly summed up the entire session:

Golf course superintendents must prepare for the future. We are beter equipped to get involved than our modesty sometimes allows us to admit." **WT&T**

Turf water use rates found by Texas A&M

Researchers at Texas A&M University have determined water use rates of several types of turfgrass, by species, according to Dr. James Beard.

The turfgrasses were divided into cool-season and warm-season for purposes of the experiments. They were ranked "very low," "low," "medium," "high," and "very high." The experiment was conducted in an environmental chamber under non-limiting moisture conditions. Here is how Texas A&M ranked the grasses:

Warm-season

VERY LOW: buffalograss

LOW: bermudagrass hybrids, centipedegrass, bermudagrass, zoysiagrass, blue brama

MEDIUM: bahiagrass, seashore paspalum, St. Augustinegrass, zoysiagrass hybrids

HIGH: none

VERY HIGH: none

Cool-season

VERY LOW: none

LOW: none

MEDIUM: fine fescue, chewings fescue, red fescue

HIGH: perennial ryegrass

VERY HIGH: tall fescue, creeping bentgrass, annual bluegrass, Kentucky bluegrass, Italian ryegrass

"The biggest thing facing us is the water problem," Dr. Beard says. "Most improvements in hardiness to environmental stress have been purely by chance in the past. In the future, however, we hope to be able to help the breeder.
conservation, reduced mowing, more efficient use of fertilizer, fewer poa annua problems, fewer disease problems, reduced soil management problems, better playing surfaces and reduced maintenance costs. □

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Circle No. 182 on Reader Inquiry Card

John Rector, left, talks to one of his California customers about the importance of quality care at Pacific Sod.

JUST RUST?

Pacific Sod personnel worry about plenty of turfgrass pests infecting their product. But, since 1982, the agronomic staff has not had to worry about rust.

Orange-brown rust pustules are as common on bluegrasses in Ventura County, Calif. as three-foot breakers and white sand beaches.

Listed as one of the 10 most liveable climates in the world, Ventura also provides an ideal climate for hearty strains of rust.

John Rector, agronomist for Pacific Sod, knows.

He's responsible for cultural practices and quality control at Pacific Sod's 500-acre Camarillo facility, which includes cool season, heat-tolerant and drought-resistant varieties. New plots of Tifgreen hybrid bermuda, Dichondra, tall fescues, Kentucky bluegrass, Excalibre, St. Augustine and Santa Ana hybrid bermuda grow vigorously in the pleasant Ventura climate which boasts an average yearly temperature of 70 degrees Fahrenheit.

"We're not here to admire grass," says Rector. "Our objective is to bring in a field from seed to sod as quickly as possible. We're concerned with quality at the outset.

"Diseases set a field back. And rust is potentially our No.1 turf disease on bluegrasses. Rust is something we have to deal with eight to nine months out of the year from September to June."

Caused by spores

Rust is the common name for a group of turf diseases caused by spores.

These tiny spores alight on healthy grass blades where they germinate by sending hyphae (tiny roots) into the grass leaf and disrupting the plant's ability to grow. Rust-infected grass looks thin, chlorotic, and is orange to brown in color. If examined under a microscope or magnifying glass, the rust pustules are raised on the leaves.

Mild temperatures make rust a persistent problem, encouraging the disease to thrive as much as nine months out of the year.

When climactic conditions are right, these orange/brown pustules appear and erupt in about 10 days, releasing millions of spores which, in turn, infect other susceptible grasses.

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A nylon netting is put down to help the natural meshing of the grass, cutting production time to three to four months.

Pacific Sod's 500-acre facility includes cool season, heat-tolerant and drought-resistant varieties.

These spores may turn shoes, machinery and field crews a lovely shade of orange. It not only makes the grass difficult to sell to Southern California buyers, but—if left untreated—can be fatal to the turf.

"When you spray, you're playing with big dollars," notes Rector. "Each decision to spray must be carefully weighed. Spray programs—especially preventative sprays for rust—are generally based on field history, time of year, bluegrass variety and other field conditions. There's only so many dollars you can throw at a field before you've eliminated its profit.

"There are times when you can see rust in the sprinkler patterns," Rector continues. To battle it, Pacific Sod used to spray a contact fungicide three to four times each month. Then came 1982.

A wipe-out?

"That year, we had a severe infestation that we couldn't get a handle on," remembers Rector. "Ten acres were bright orange. Mowers, field equipment—everything that went into that field—came out orange.

"We applied Bayleton fungicide, a brand new product at that time. The area distributor gave us a sample for testing, and we had nothing to lose. In one month, the turf was back to first quality.

"Since then, we've reduced the number of applications to one every four to six weeks, and we've achieved more consistent control and better overall quality."

Dr. Art McCain, extension plant pathologist at the University of California/Berkeley who recommends Bayleton, stresses the importance of other preventative measures:

- Correct timing of overhead irrigation so water doesn't remain standing on the turf overnight.
- Mowing and trimming infected plants regularly.
- Picking up clippings so surviving spores don't travel to neighboring plants and reinfect.

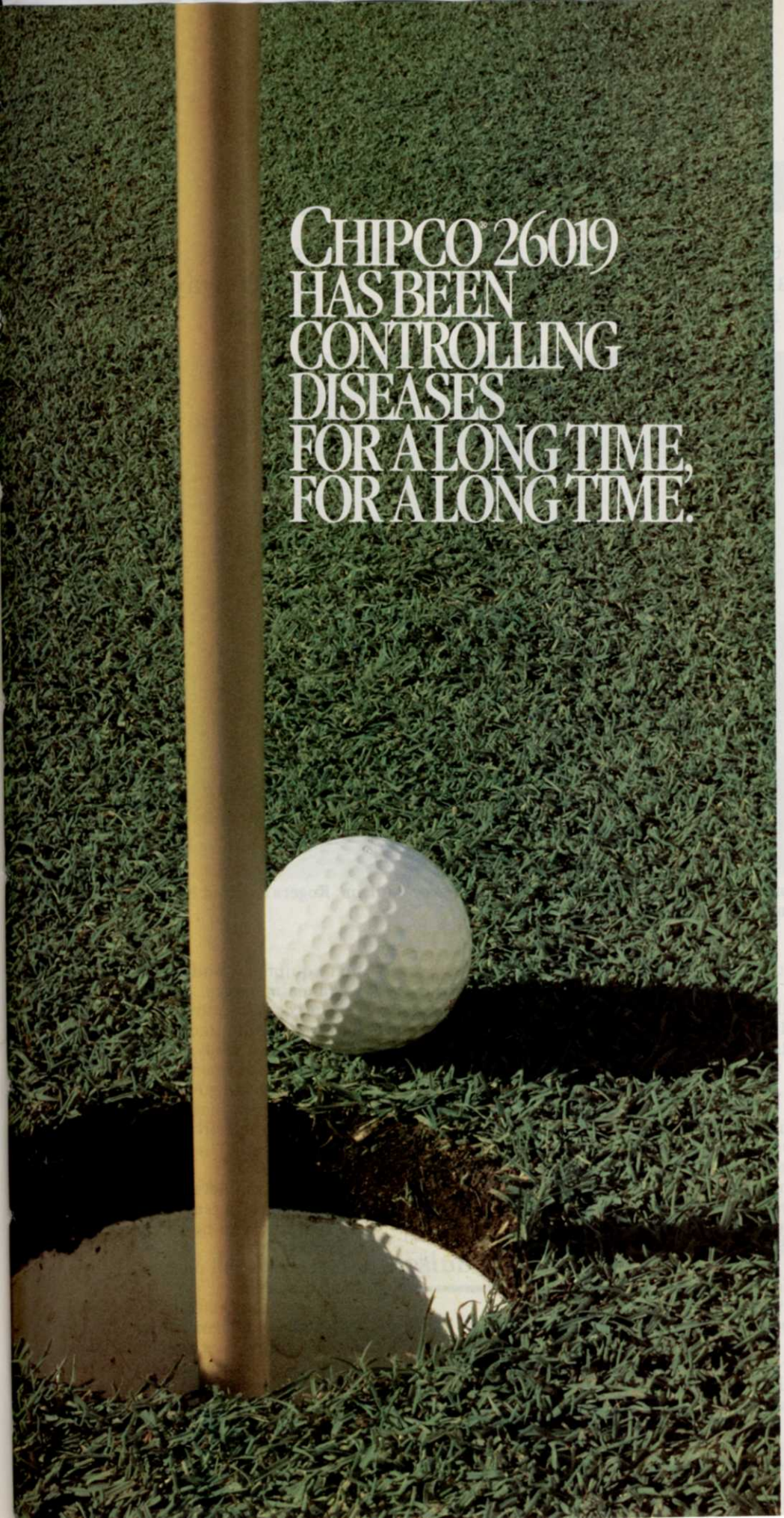
Tough competition

According to Rector, rust control is vital to achieve a reputation for top-quality bluegrass products.

"Competition in California, which is nearly 99 percent of our market, is especially tough with quality of product leading the way. A bad reputation here would quickly cut us out of the market.

"We are one of the largest sod growers in the western United States, yet being the largest isn't important—being the best is."

And Pacific Sod's grass will pass muster among tough California customers who love Ventura's climate, three-foot breakers, white sand beaches, grass bright and green, and free of ugly rust patches. **WT&T**



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Circle No. 164 on Reader Inquiry Card

DOING IT THEMSELVES

Weed control on industrial sites is not easy. Officials at an Illinois chemical facility tried it a couple ways before settling on in-house—and it finally worked.

Alec Rogers, left, discusses spraying equipment and spray tips with Perry Paulson. Rogers assisted Northern Petrochemical Co. by providing instruction onspraying herbicides.

It's not often costs can be cut and performance improved at the same time. But that's exactly what Northern Petrochemical Co. did with the weed control program at its 1,500-acre plant site, which borders the Illinois River near Morris, Ill.

"About 75 acres of the total acres is bare ground subject to weed growth," says maintenance supervisor Perry Paulson. "Some of that is open area, and some is around buildings and storage facilities. We have broadleaf weeds, grasses and vines. They're unsightly as well as a fire hazard."

Northern Petrochemical, which began operating at the Morris location in 1968 and has been expanding ever since, has tried a number of weed control programs.

In recent years, its maintenance staff used hand-operated mechanical weed trimmers around buildings and storage areas, while the firm hired a commercial applicator to spray the open acreage. Neither was satisfactory, say company officials.

Maintenance manager Bernie Sandner explains that the company spent $5,000 for weed trimmers, and the cost didn't include labor.

'We spent $50,000 on equipment, materials and labor in the first year, but we believe it was a good investment.'
—Paulson

Paulson says the commercial applicator just wasn't timely enough.

Making the choice

Faced with high costs and disappointing results, Northern Petrochemical decided to buy high-volume application equipment and handle its own weed maintenance.

The company purchased a 500-gallon, trailer-mounted, tractor-drawn, high-capacity sprayer. It's equipped with a 20-foot boom for large open areas and a hand gun with 200 feet of hose for hard-to-reach areas. The unit has a Hypro self-driven pump with a gasoline engine. There is hydraulic jet agitation.

Paulson completed the state examination which is required for chemical applicators so he could supervise the spraying.

There was still one snag to overcome, however.

The company had purchased 55-gallon drums of a chemical for spraying, but the firm's environmental officer ruled against its use; he was concerned that the chemical could leach into the Illinois River and kill fish.

Advisor called on

At that point, a company official

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Circle No. 169 on Reader Inquiry Card

Because Northern Petrochemical borders the Illinois River, the firm must be careful not to use herbicides that will leach out into the river.

who had heard about Du Pont's program for industrial weed control, contacted that company's Chicago office. Midwest industrial weed control specialist Alec Rogers was immediately dispatched to the plant site.

Rogers inspected the site, analyzed the problems and suggested a specific herbicide program: five ounces per acre of *Oust* and 10 pounds of *Karmex* to cover the broad spectrum of weeds.

But he included one proviso: he insisted on training the five persons who would be doing the spraying. Rogers gave four hours of classroom instruction followed by three sessions in the field covering such topics as calibration, spray pattern and application speed.

The Northern Petrochemical crews began spraying on April 18 and continued, as their schedules allowed, through early summer.

At the start, they used a dye in the spray mixture to indicate the width of the boom's coverage. But, as they gained experience, the dye was discontinued.

"We were highly satisfied with the first year's results," says Paulson. "We had a call from one of the assistant superintendents complimenting us on the job in his area. That made us all feel good.

"We spent $50,000 on equipment, materials and labor in the first year, but we believe it was a good investment. The sprayer and other gear can be amortized over a number of years and, in the long run, we're saving money along with getting better results." **WT&T**

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A MONSTER OF A PROBLEM

A country club in Washington state has to deal with huge insects which, as 'leather-jackets,' are up to one inch long and can quickly eat up a green.

They look like giant Alaskan mosquitos. When they cover the lights and windows of the clubhouse, you'd swear they could give you a blood transfusion. But they don't bite, sting or draw blood. The whole purpose of the adult crane fly is to find a partner, mate, lay eggs, then die. It's what hatches out of those eggs that can quickly eat up a green," explains Mike Bauman, superintendent at Meridan Valley Country Club in Kent, Wash.

Kent lies minutes from Puget Sound, Tacoma and Seattle. On a clear day, you can stand on Kent's highest hill and see Mount Rainer, commercial fishing fleets in the Sound, giant Douglas firs in the forests and the skyscrapers of downtown Seattle.

The club is the home of the Safeco Classic, one of the final three tournaments of the year for the Ladies Professional Golf Association Tour, a tournament where the women pros tune up for their upcoming Masters.

They chose Meridan Valley after scouting many courses in the Northwest. It was decided the layout, the length and the natural ampitheater banks would serve as the perfect setting for the LPGA Tour and its gallery.

Designed by golf course architect Ted Robinson in 1965, Meridan Valley was molded into shape out of a Kent marshland by Mike Bauman and his father. Mike's father cared for the course until his retirement in 1978 when Mike was named his replacement.

"There's a lot of family blood, sweat and self in this course," says Mike. Because of this family connection, the finale of the year for Mike is the September Safeco Classic. It's a time to show off the year's work.

Grass spoilers

One of his major turf pests is the crane fly. It is one of the most difficult grass spoilers to control for the Classic, though it does most of its damage in April, May and June.

According to Dr. Roy Goss, extension agronomist and turfgrass specialist at Western Washington Research and Extension Center in Puyallup, Wash., the crane fly is a native of northern Europe which showed up in British Columbia, Canada, in 1965. It has since made its home in Washington and Oregon, and is moving south.

The life cycle of the crane fly begins in late August to mid-September when it emerges from the soil, looking strikingly similar to a one-inch mosquito.

Within 24 hours after coming out of the soil, the adult female mates and lays eggs on the surface of greens and fairways. Then it dies.

"Thousands of adults mate throughout August, and each female can lay as many as 300 eggs," says Bauman. Within two to three weeks, these eggs hatch into small gray-brown worms that develop a tough skin. Northwesterners call them "leatherjackets."

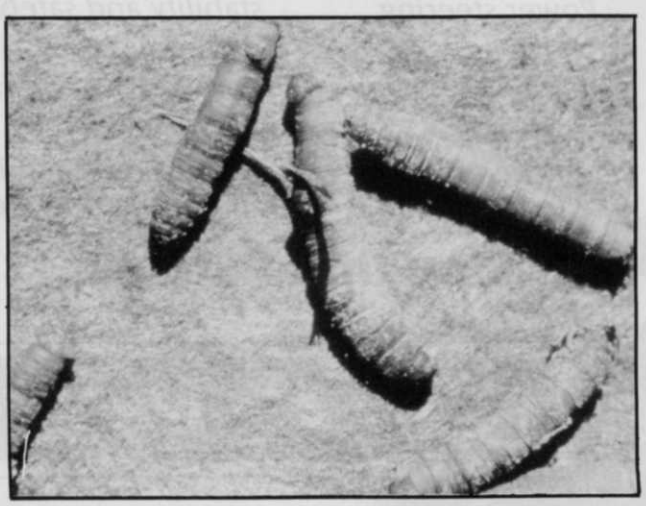
These little tough-skinned grubs burrow into the ground and live just below the turf surface during the daytime. On damp fall evenings, they surface and feed on blades of grass. The larvae grow to more than one inch in length, and are vigorous eaters. They continue to feed throughout the fall, and overwinter in the grub stage in the soil where they munch on roots.

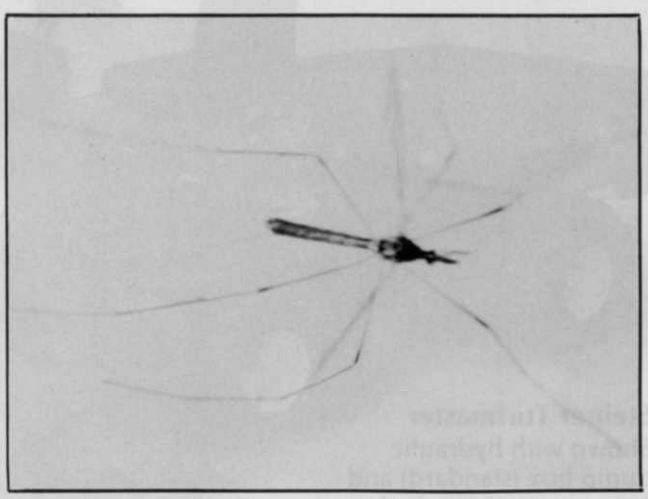
As soon as the weather warms up in the spring, they begin to feed again above the ground. In mild winters, they cause noticeable damage to the turf, as early as January. Normally, damage is common February through April.

"If you have more than 30 crane fly grubs per square foot, you can expect them to destroy turf," says Dr. Goss.

Controlling the beasts

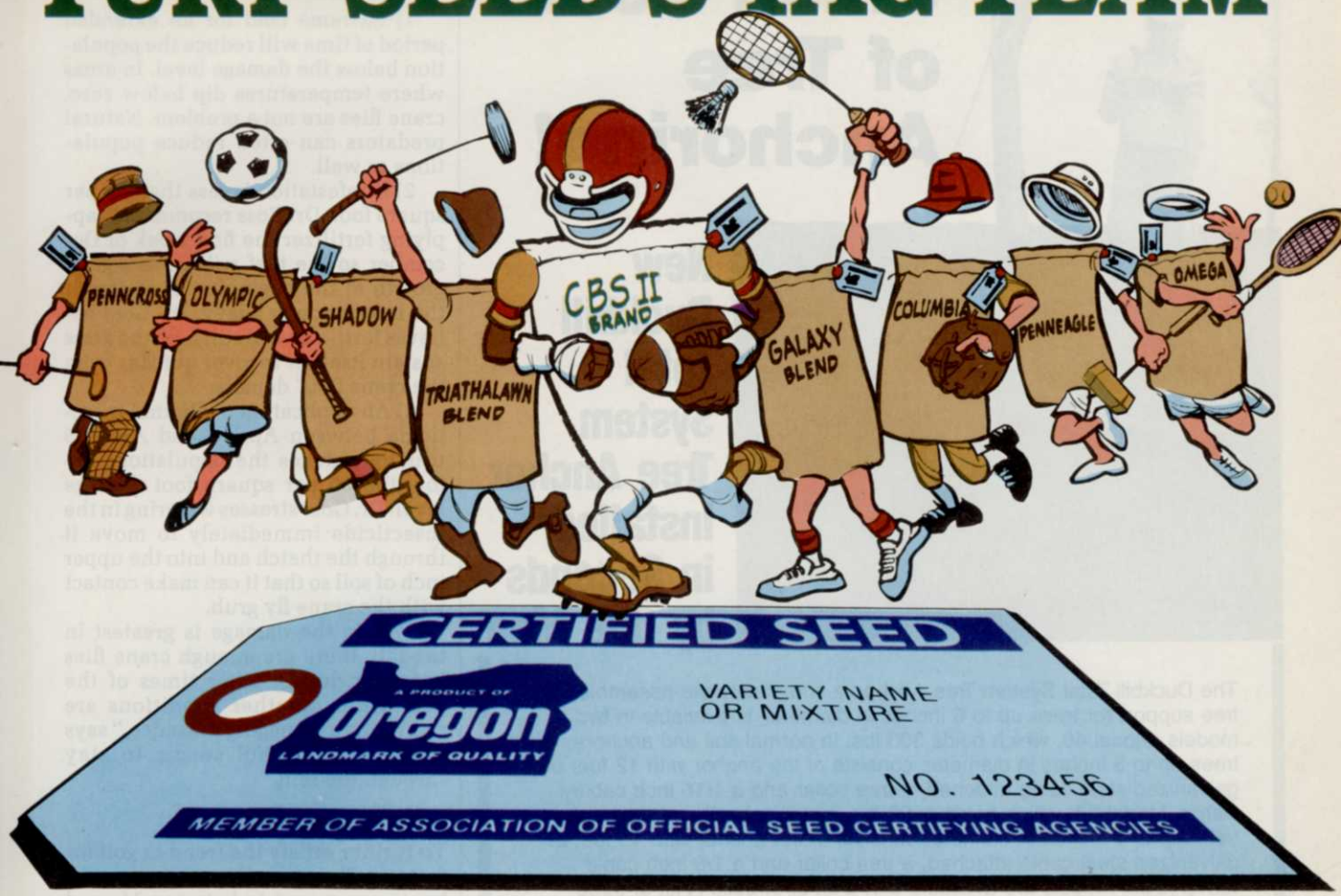
Three things help control crane flies, according to Dr. Goss:





Crane fly grubs are vigorous eaters. Adult crane flies look like giant Alaskan mosquitos.

TURF-SEED'S TAG TEAM



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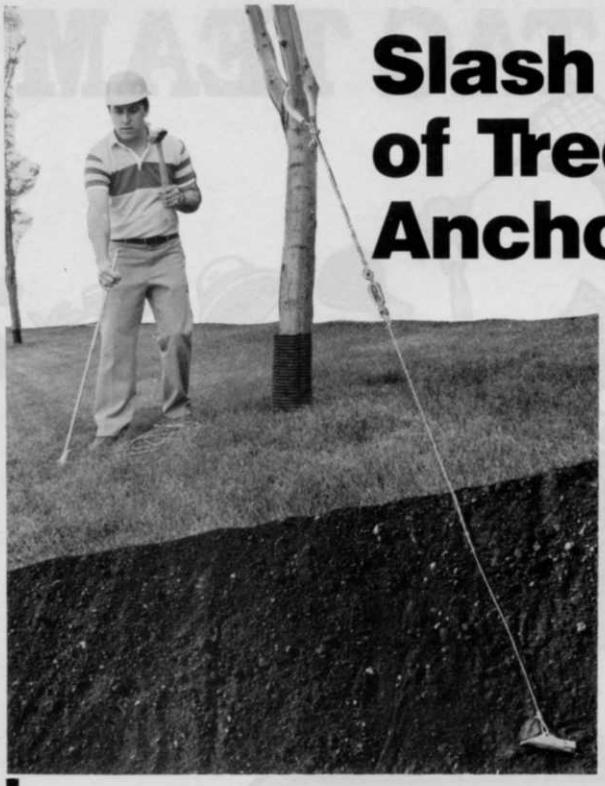

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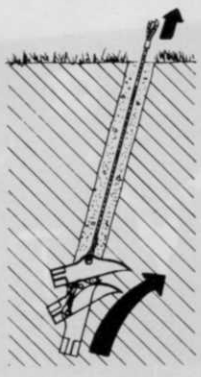
Duckbill is driven into the ground with a drive rod and heavy hammer. An upward pull on the cable rotates the anchor into load lock position, like a toggle bolt in undisturbed earth.



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1) Extreme cold for an extended period of time will reduce the population below the damage level. In areas where temperatures dip below zero, crane flies are not a problem. Natural predators can often reduce populations as well.

2) If infestation is less than 30 per square foot, Dr. Goss recommends applying fertilizer the first week of December so the turf will have a good growth at the beginning of spring. If the infestation is heavy, Dr. Goss believes fertilizer will still help the grass sustain itself or recover quicker from the crane flies' damage.

3) An application of Oftanol insecticide between April 1 and April 15 usually reduces the populations below the 30 per square foot damage level. Dr. Goss stresses watering in the insecticide immediately to move it through the thatch and into the upper inch of soil so that it can make contact with the crane fly grub.

"While the damage is greatest in the fall, there are enough crane flies hatching during other times of the year when weather conditions are right to be a damaging nuisance," says Bauman. "Oftanol seems to stay through the rain."

Cultural maintenance

To further satisfy the trend in golf for faster ball speed, Bauman trims all bentgrass greens to between 3/16 and 3/32 of an inch. Tees are cut to 3/8-inch and poa annua fairways are clipped to 1/2-inch. Roughs are trimmed to 1 1/2 inches year round.

On the average, all greens receive nine pounds of nitrogen per 1,000 square feet. The tees receive six pounds, and the fairways 4 1/2 pounds.

The major weed problems, veronica and creeping speedwell, are controlled with postemergent compounds (Dacthal and Turflon D) between April and June.

For fusarium and anthracnose, the major disease problems, Bauman rotates Bayleton and about six other fungicides starting in June and continuing through September.

Trees and flowering ornamentals are sprayed with diazinon for insect control on a curative basis.

A rosy future

The course will soon begin a 10-year re-design.

"We've rehired Ted Robinson to design a program so the course suits all types of golfers, from touring pros to the player who hits 120," says Bauman. "We're even looking at overseeding our poa annua with a drought-resistant rye that is very playable and can stand short cuttings." **WT&T**

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WEEDS TREES & TURF

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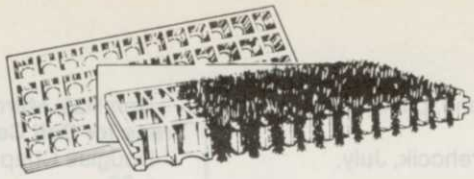

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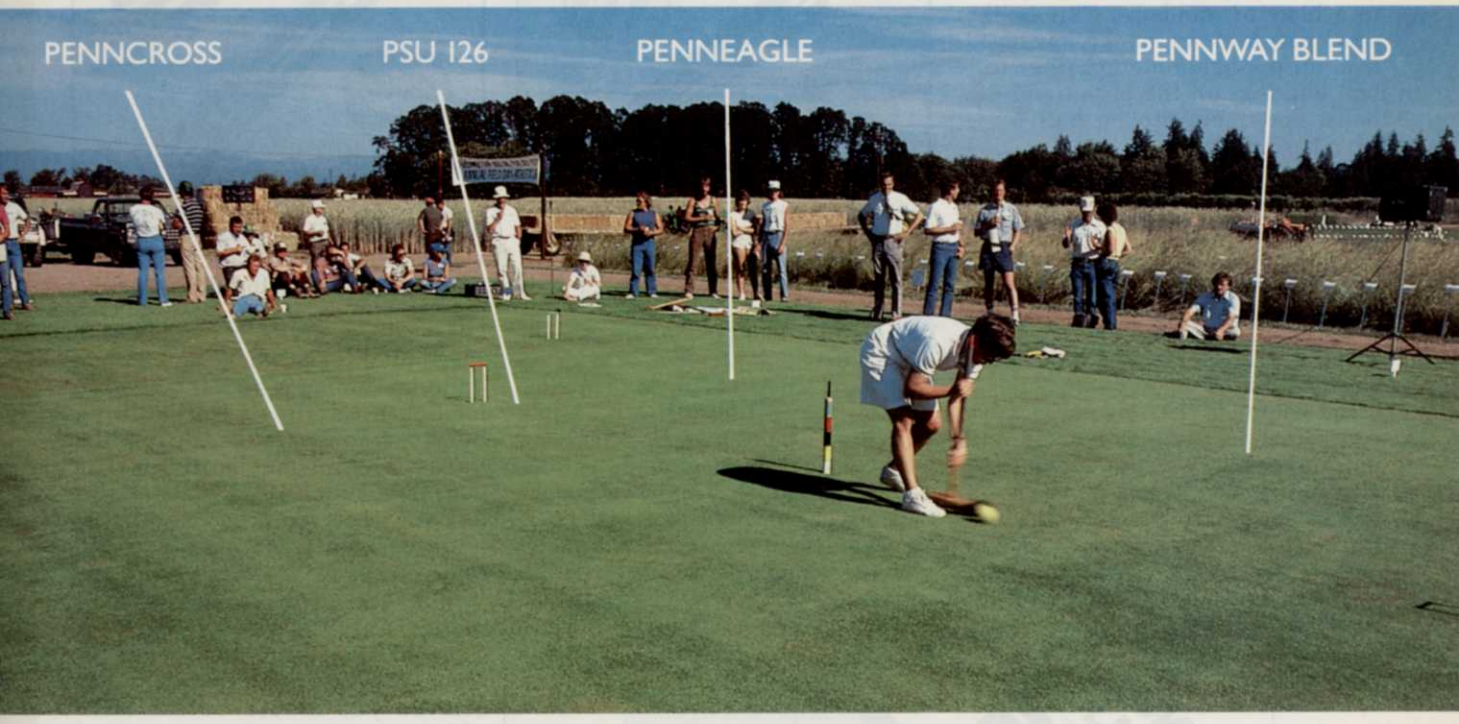
The Penn Pals are 'Tried and True'



Tournament croquet exhibition at Pure Seed Testing Research Center, Hubbard, OR

All work and no play make research a dull duty.

Just as time, patience, recording and recommendations are part of the development of our superior creeping bentgrasses, actual field testing is a big part of assuring the user a quality product.

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Circle No. 175 on Reader Inquiry Card

Synthetic oil resolves most two-cycle woes

Any mechanic worth his salt knows that two-cycle engines—especially those used on professional turf maintenance equipment—are susceptible to a bevy of problems. Things like spark plug foul-out, smoke, low speed load-up, pre-ignition, stuck rings, carbon build-up on the piston and exhaust ports, and broken pull cords from hard starting.

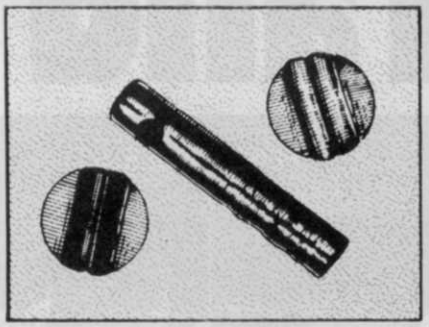
Several extensive users of two-cycle engines in South Carolina, however, have found that most such problems can be greatly reduced by switching to *synthetic* two-cycle oil.

"It's not a gradual change like losing weight," says P.O. Mead III, of Mead's Tree Service, Charleston. "You notice the result immediately." Mead contends that his chain saws run cooler in summer months and don't experience vapor lock. They also start easier. "When a man is 70 feet in the air, hanging by a belt and leans out to crank a saw, it's nice to have it start easily," Mead observes.

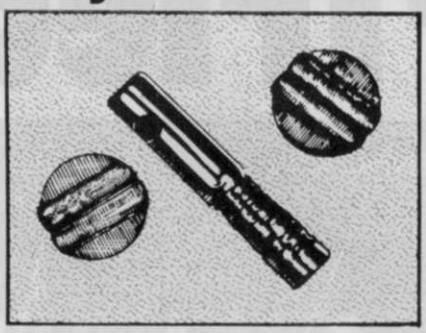
Personnel at the Marine Corps Recruit Depot, Parris Island, also rave about Amsoil 100:1, a brand of synthetic oil.

"I have not had to unclog a muffler because of carbon build-up since switching," notes Olin Broome, who is responsible for the grounds maintenance equipment. "And I've bought only one box of spark plugs in the past six months" compared to the 50-60 plugs per month he was using before switching.

Both Willie Vining and Ronnie Lucas noticed dramatic reductions in spark plug replacement and carbon build-up. Vining is master craftsman for South Carolina's Horticultural Services Department, Columbia. Lucas is chief mechanic for The Greenery, Hilton Head Island. Lucas has also observed a decrease in rewind assembly maintenance and replacement.



A diester-based oil shows only moderate wear after 4,250 lbs. direct load.



A petroleum oil shows severe welding and galling. Test was ended with seizure at 750 lbs. direct load.

The Amsoil diester-based synthetic is an engineered lubricant from extremely pure man-made ingredients. It requires fewer additives yet reacts better with additive packages, has a nominal film strength (about 3200 psi), and has a very low coefficient of friction. Which is why it can be run at a 100-to-1 fuel-to-oil ratio.

The product's information sheet reads: "Amsoil two-cycle oil virtually eliminates spark plug fouling because it burns and exhausts much more cleanly than petroleum oils. Rings remain free and clean for improved compressing and combustion.

"Excessive carbon build-up on piston domes and exhaust ports is eliminated...no need for frequent maintenance, or the alternative mechanical damage due to detonation or heat build-up caused by these deposits."

The oil forms no gum varnishes, sludge, carbon or ash residues. Company representatives claim that, over a period of time, Amsoil will actually dissolve previously-formed deposits for a clean, efficient-running engine.

If a person or a company has an investment in two-cycle equipment and is interested in maximum performance and lubricant protection, then synthetic oil is worthy of investigation. **WT&T**

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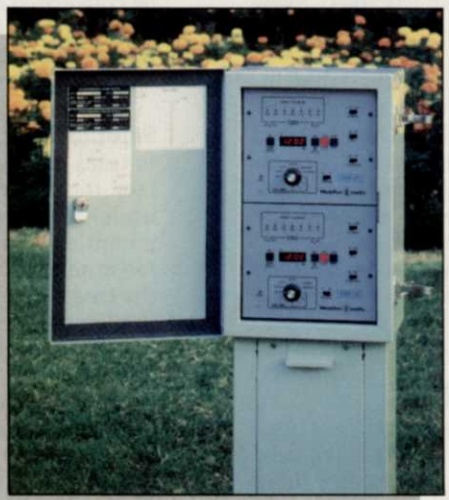
Five simple ways to take control.



Whether you need a 6, 8, 12, 16 or 24 station irrigation controller, you can't beat the microcomputer Mark Series from Weather-matic. All models are available in three types of housings — U.L.-listed rainproof aluminum; economical plastic for indoors or heavy-gauge, industrial-grade steel — so they can fit every application.

The Mark Series is easy to program, too. A function selector switch and large pushbuttons reduce operator confusion and help cut training time, all but eliminating installer callbacks.

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Special features include a self-charging battery back-up system. This retains the program and clock time in the event of a power failure. And it eliminates periodic battery replacement. The controllers will also detect and skip a shorted valve.

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They're five reasons why so many irrigation professionals say you can't beat the system — when the one you choose is Weather-matic.

To learn more, write or call tollfree: 1/800/835-2246. (In Kansas: 1/800/362-2421)

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LAWN AND TURF IRRIGATION

Circle No. 178 on Reader Inquiry Card

PROBLEM SOLVERS

by **Balakrishna Rao**, Ph.D.

Drift control

Problem: *Are you aware of any material that may aid in minimizing the spray drift of pesticides? (New York)*

Solution: There are several products available including MIST-Control (drift retardant and deposition aid for pesticide sprays) by Miller Chemical and Fertilizer Corp. Although reports indicate the product is useful in drift control on small vegetable crops, we have not seen any data regarding its use on shade trees nor have we conducted any research.

Therefore, try it on an experimental basis. Read the label and follow the directions.

Oxalis: a stubborn weed

Problem: *Every year summer oxalis infestations present a serious problem in many lawns. We have used Killex in the past years with poor results. Are there some effective chemicals to manage this problem? I would appreciate your comments. (Ontario, Canada)*

Solution: Oxalis is considered to be one of the most difficult to control weeds. The Canadian Ministry of Agriculture and Food recommends repeated use of mixtures containing amine formulations of 2,4-D with mecoprop, dichloroprop and/or dicamba.

The Killex you mentioned is a mixture of this type. Unfortunately, reports indicate that Killex doesn't provide adequate control, and the ester formulations available in the United States are not registered for use in Canada. The only choice you have is to mechanically remove the plants or use repeated applications of Killex, as needed.

Remember that these herbicides adversely affect the root systems of turfgrass roots also. Therefore, it is a good idea to spot treat an area for specific oxalis problems rather than to treat the entire lawn.

Preventing rabbit feeding injury

Problem: *What can we use to protect plants from rabbit feeding injury? Every year we see a number of plants damaged by these animals. (Pennsylvania)*

Solution: Although it is not impossible, it is difficult to manage this problem. Different university extension services recommend the use of Thiram (paints and/or sprays), ammonium soaps, capsaicin bone tar oil (follow label directions), or Rosin—alcohol repellent (dormant: 7 pounds tree rosin in 1 gallon denatured alcohol—paint in; 7 pounds rosin in 2 gallons denatured alcohol—spray).

Reports indicate that products containing Thiram work satisfactorily. If some of these materials work well for you, let us hear about your success.

Surface fertilizer application

Problem: *Are there any serious problems we should be concerned about in surface applying granular fertilizers for fertilizing trees? We are thinking of providing tree fertilization service by surface applying the fertilizer. (Illinois)*

Solution: Remember that, when applying fertilizer to trees growing in lawn areas, the amount of fertilizer recommended for trees may injure the grass under the tree or cause excessive growth. The burn potential would be greater if the fertilizer contains too much of a quick-release source of nitrogen and if the tree fertilizer is in addition to fertilizer applied to the lawn.

Although surface application of fertilizer is fast and relatively inexpensive, the potential for problems in quality lawns will probably cancel out the time and labor advantage. For best results, the tree fertilizer should be introduced into the root zone and dispersed uniformly.

Football field treatments

Problem: *When is the best time to do dethatching and topdressing of a football field? We are interested in this service and would be dealing with warm-season turfgrasses, like bermudagrass, in the South and cool-season turfgrasses in the North. (North Carolina)*

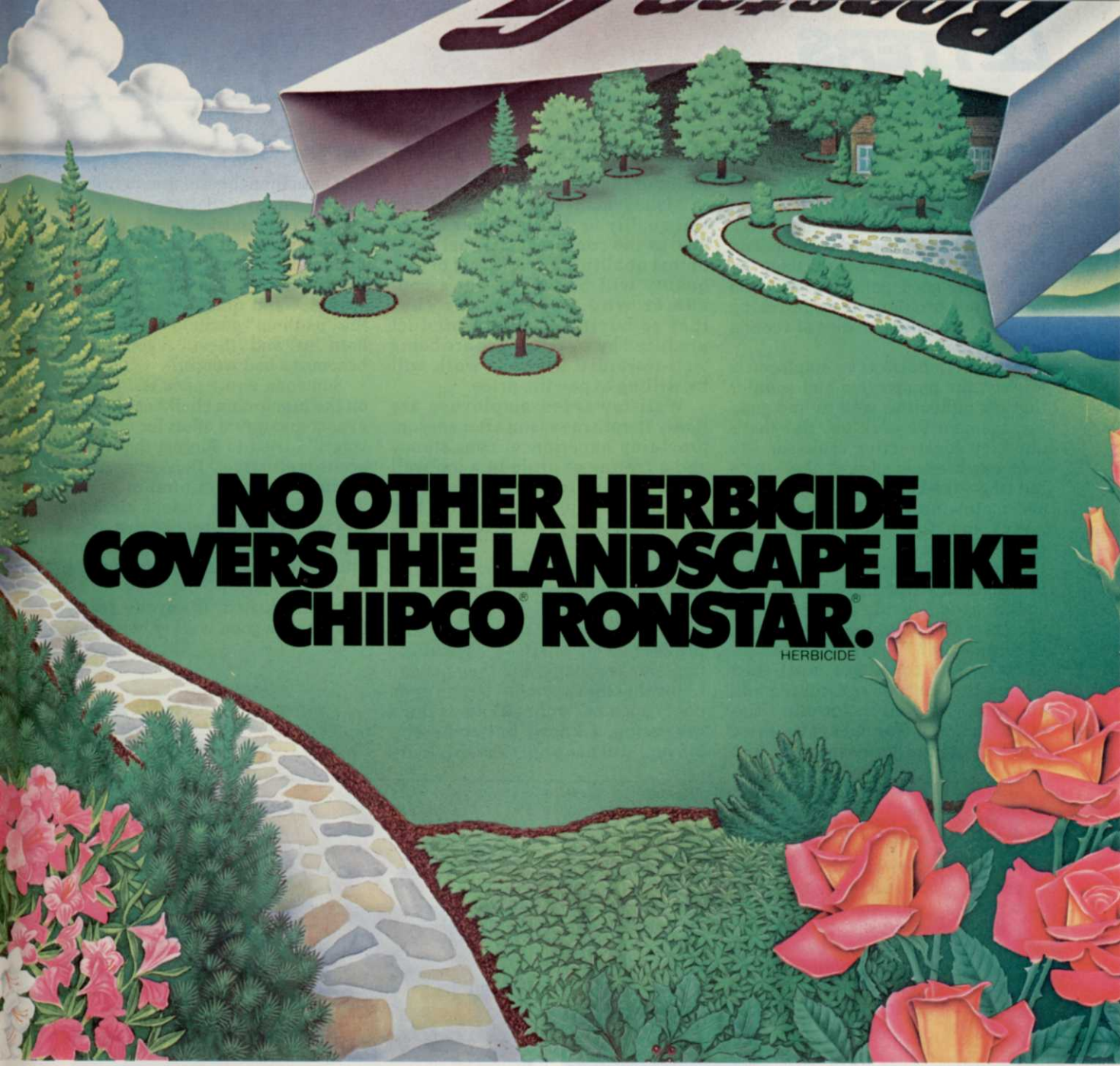
Solution: Generally, more than 1/2-inch of thatch is considered to be potentially detrimental to the turfgrass culture and quality. However, experts dealing with athletic field management consider about an inch of thatch desirable on a football field.

If the thatch layer exceeds the desirable thickness, dethatch cool-season grasses in early fall while they are still growing. If this operation interferes with ballgames, then consider doing it in spring. Warm-season grasses, like bermudagrass, can be dethatched in the spring just before greenup.

After dethatching, topdress the area with the same soil type or 100 percent sand. Do not use organic matter on a sand-based ball field. Organic materials will seal the field in time and cause poor water movement, resulting in surface water accumulation. If standing water is a problem, consider improving the drainage by installing vertical or French drainage systems.

Balakrishna Rao is Director of Lawn Care Technical Resources for Davey Tree Expert Co., Kent, OH.

Questions should be mailed to Problem Solver, Weeds Trees & Turf, 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Please allow 2-3 months for an answer to appear in the magazine.



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Circle No. 165 on Reader Inquiry Card

LETTERS

Employer/Employee relations: walking the two-way street

In the article "Condo/Apartment Landscapes" (October, 1985), you summarize findings of a recent WT&T survey. What grabbed my immediate and emotional attention was that, "by far, finding good personnel was the most-cited problem of undertaking the landscape maintenance of a condo property."

My first impulse as an employee is to twist the perspective and counter that it's difficult as well to find good management to work for. But that's not very constructive criticism. My own experiences suggest that—trite but true—the key factors to acquiring and maintaining good personnel are wages, benefits and employer-employee relations.

Wages and benefits for any employee in any undertaking must be sufficient to provide a decent standard of living. Where is this money to come from? From the consumer, to start. The consumer must start paying the costs of consuming and abandon the search for the "Cadillac job with the Chevette price tag." Only the worker bears the brunt of that philosophy.

Management must undertake to sell quality to the consumer and to charge the consumer the real price of that quality. Sure, the cost of that quality will be higher, but a consumer who understands that they're buying a quality product produced by workers who are being well-rewarded for their work will be willing to pay the price.

Well-rewarded employees are likely to return season after season, providing experience, consistency and a feeling of pride in a job well done. Unrewarded employees are like Dixie Cups: use 'em up and throw 'em away; more can always be had.

Two-way, symmetrical communication between employer and employee is the *sine qua non* of maintaining good personnel. Employees need positive as well as negative feedback, and they need to know that management has an open door/open ear policy. This is not a revelation, I know, but some employers still have not seen this light.

These thoughts are drawn from reflecting on my experiences last summer as a groundskeeper. A uniform, workman's comp, $4.39 per hour and unemployment are the only benefits. A worker starts out with the best of attitudes and quickly bogs down in the "us-them" mentality promoted by both "us" and "them." A good worker becomes a bad worker.

Someone wrote once last summer on the lunchroom chalkboard: "Don't expect maximum effort for minimum wage." I tried to suggest that the opposite is also true: "Don't expect maximum wage for minimum effort." See? It becomes a vicious circle. No one wants to unilaterally give in, and the feud and distrust continue. there must be communication to resolve all this obstinancy.

In conclusion, if anyone reading this wants a good worker, write me.

Lorelle B. Knoth
827 Wisconsin
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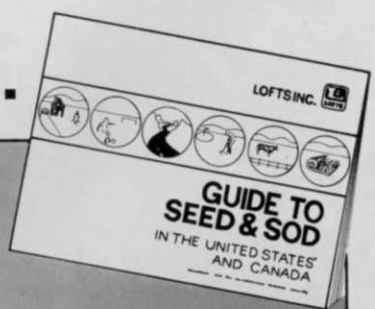

LOFTS TURF GUIDE

Lofts' *Guide to Seed and Sod in the U.S. and Canada* is available free of charge on request. The *Guide* is a complete reference for turf grasses, with comprehensive information on use, adaptation, planting dates and rates. This latest edition also includes a section on ornamental grasses and their application.

For your free copy contact Marie Pompei, Research Department, Lofts Inc., Box 146, Bound Brook, NJ 08805, (201) 560-1590.

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Circle No. 139 on Reader Inquiry Card

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- Penetration up to 2 3/4″.
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Circle No. 113 on Reader Inquiry Card

Insecticide now in low-odor formulation

Dursban turf insecticide has been improved, say sources at Dow Chemical Co.

"The new formulation is low in odor while providing LCOs with outstanding efficacy and residuality," says product marketing manager Rob Peterson.

An added feature of the new Dursban is that it will not move out of the application zone, thus providing safety, says Dow.

"LCOs can use this product and be confident that it is safe for applicators, homeowners, and neighbors when applied according to label directions," Peterson observes.

Circle No. 190 on Reader Inquiry Card

Aerators help kill algae problems

Otterbine Floating Aerators are designed to biologically treat the true causes of algae, according to their manufacturer.

Barebo, Inc. recently developed the Phoenix and Constellation floating mechanical aerators, which greatly enhance aesthetic appeal, are easy to install and maintain, and are economically priced.

The Phoenix (shown here) combines two spray patterns in one unit with the geyser pattern of a 5-hp motor. The Constellation creates an array of multi-leveled sprays. The center unit can be any Otterbine aerator with a 5- or 10-hp motor, surrounded by any number of satellite units.

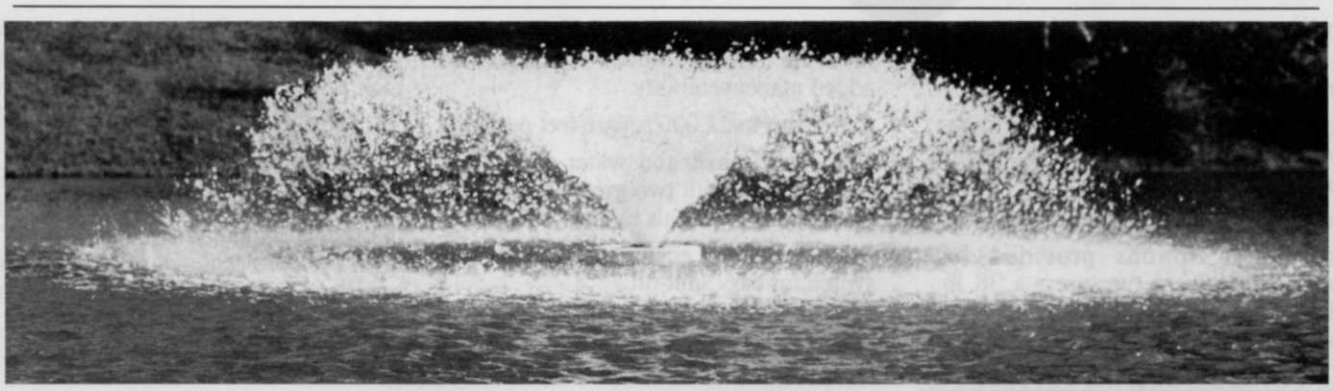
Circle No. 191 on Reader Inquiry Card

Diesel heater keeps winter out

Air Dragon is an easy-to-install cover for dozers, backhoes, fork lifts, and loaders that helps keep the operator safe and comfortable.

Fitting directly over the radiator, the Air Dragon can be used on any

continued on page 112



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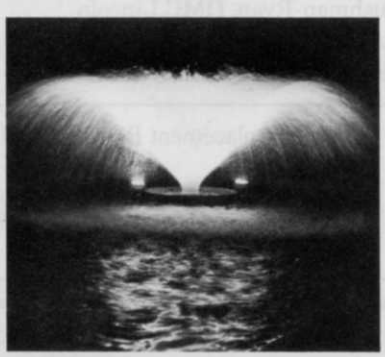

OTTERBINE® Aerators can help you keep unsightly algal growth and objectional odors under control naturally. The fact that OTTERBINES also create beauty — is just one of the many benefits of using our Spray Sculpture™ Floating Fountains.

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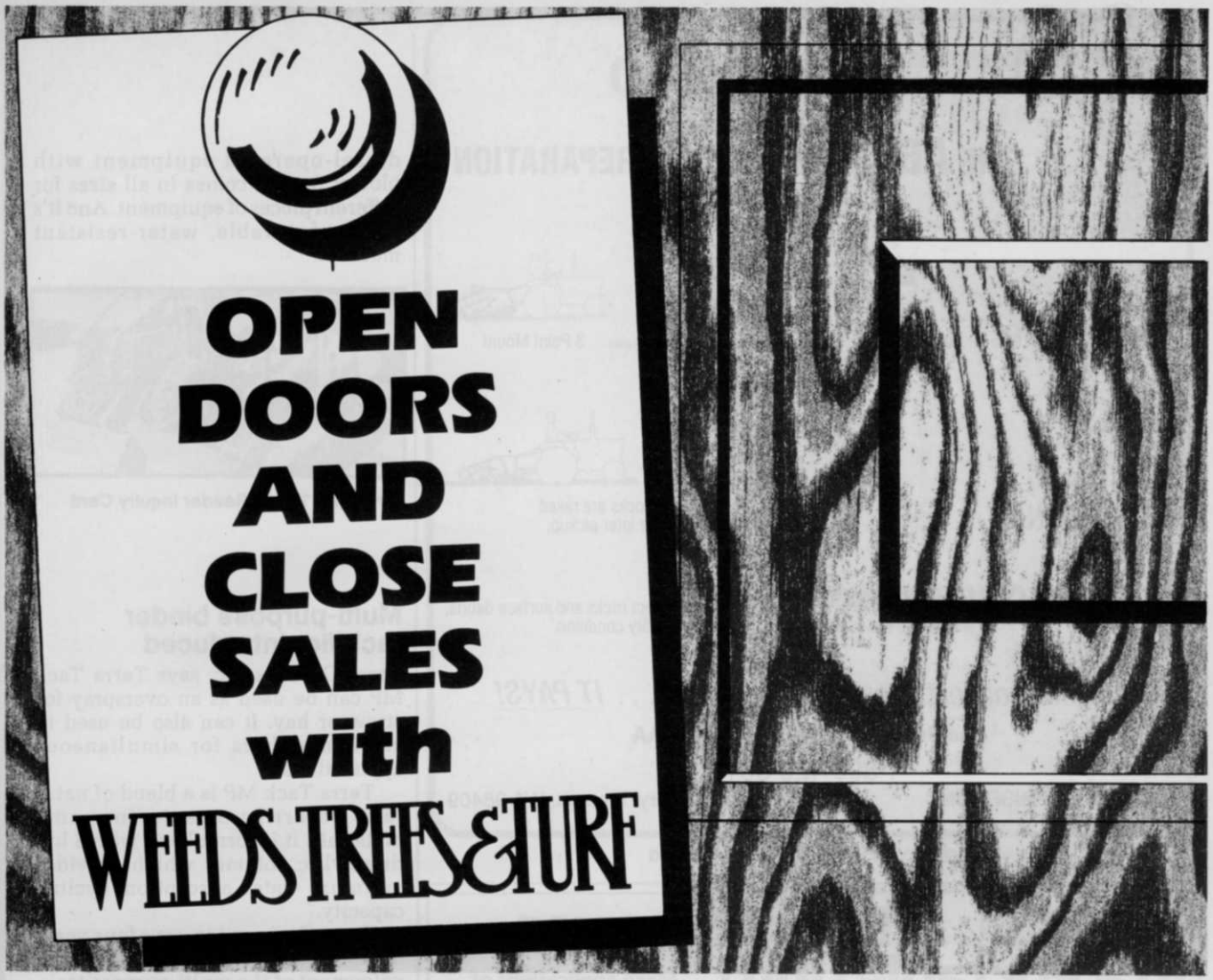

Attention Lawn Care Companies, Distributors, Lawn and Garden Retailers and Seed Marketers:

From your own experience, you know that when the typical homeowner looks out of a window of his 15-year-old or older home, he sees an aging, dull lawn without a single improved variety of grass in it. What he would like to see is what he's noticed on newer lawns — greener, healthier, finer-bladed grass — but he doesn't have the slighest idea of how to achieve it.

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3. **What facts to look for on the seed bag label to insure compatibility and quality.**

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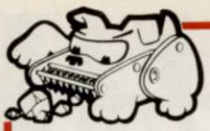
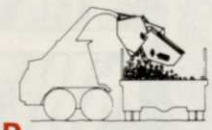
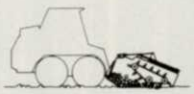


ROCKHOUND TEACHES THE ABC'S OF GROUND PREPARATION

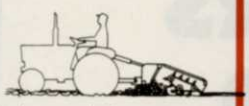
A SERIES ROCKHOUND


Dumping


Skid Steer Mount (Hydraulic)

3 Point Mount

B SERIES ROCKHOUND



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Circle No. 135 on Reader Inquiry Card

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Model D-8-100

Specifications		Options
Pump Cap.	14 GPM	Turf Trailer Mounting
Pressure	550 psi	Belt-Driven Mechanical Agitation
Power	8HP Briggs & Stratton Engine	Fill Well Basket Filter
Tank Cap.	100 up to 400 gallons	Canopy and Hose Reel to Hold 200' of ½" hose
Standard Agitation	Jet	Dry Booms in Varying Lengths
Pressure Control Unit	15 GPM	Boom Jet – Pistol Grip Gun
Standard Drive	Direct	52" or 72" Hand Boom and Drift Skirt

Make applications of herbicides, pesticides and fertilizer quick and easy with a MARCO sprayer! MARCO's Prime Line of more than 20 models of spraying equipment features one-piece, hand-laid and baffled fiberglass tanks in custom sizes – each with a 20-year warranty!

Call or write for a brochure illustrating our complete line. We can custom build to fit your needs, too.

Contact MARCO today – and put our fully professional, fully affordable sprayers to work for you!

MARCO

DIVISION OF LLO-MAR MFG. CO.

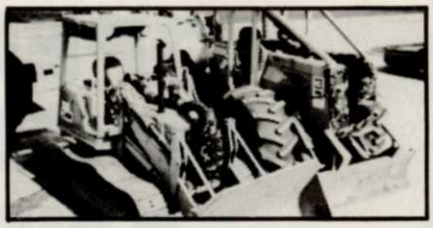
(800) 527-1574
In Oklahoma, call (405) 362-3162

210 S. Main St.
Newkirk, OK 74647

SEE MARCO'S NEW 1986 PRODUCTS AT BOOTH 940, GCSAA!

Circle No. 141 on Reader Inquiry Card

diesel-operated equipment with blower fans. It comes in all sizes for different pieces of equipment. And it's made of durable, water-resistant material.



Circle No. 192 on Reader Inquiry Card

Multi-purpose binder tackifier introduced

Grass Growers Inc. says Terra Tack MP can be used as an overspray for straw or hay. It can also be used in straw mulchers for simultaneous applications.

Terra Tack MP is a blend of naturally occurring organic/inorganic materials. It is formulated with a hydrophyllic polymer which provides optimum water absorption/cycling capacity.

Grass Growers Inc. says four years of research and testing went into development of the multi-purpose tackifier/binder.

Circle No. 193 on Reader Inquiry Card

Loading ramp perfect for light equipment

An all-purpose ramp for loading small equipment and supplies joins the Melcher Mfg. product line.

The Lite-Loader ramp is made of all-weather, zinc-plated steel tubing with a fiberglass surface. The 30-inch-

Trenchmaster

Trenchmaster takes the sweat out of burying water pipe, cable, and small gas lines; saves time and money making trenching a very quick and easy one man operation. Trenchmaster will dig 5 - 25 feet per minute leaving a trench 1½" - 2" wide, 7" deep, with all the dirt piled neatly beside the trench for ease of refilling; giving the most professional look possible, with virtually no damage to the turf.

Trenchmaster can be easily loaded by one man and features a heavy-duty industrial-commercial series Briggs and Stratton 5 hp. motor, replacable steel alloy tips, all steel construction, and is designed for maximum use with minimum maintenance.

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MANUFACTURING CORPORATION
ROUTE 3 - OZARK, ALABAMA - (205) 795-6603

Interested Dealers or Distributors
CALL:
205/795-6603

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wide single ramp has a 1,000-pound capacity and weighs just 86 pounds. Dual ramps handle loads up to 1,500 pounds, yet each half weighs only 47 pounds.

The 7'11" Lite-Loader is adequate for loading levels up to 32 inches off the ground, and it fits easily into the back of a standard pick-up truck.

Circle No. 194 on Reader Service Card

Arsenal herbicide controls vegetation

Arsenal herbicide provides total vegetation control, according to its manufacturer, Cyanamid Agricultural Division.

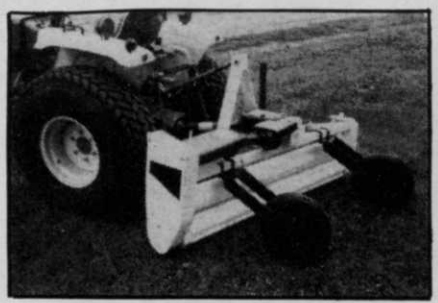
When Arsenal enters plants through foliage and roots, it seeks out and accumulates in the growing points, inhibiting plant production of three vital amino acids. Even though measurable growth of treated plants ceases within hours, the brown-out process is slow.

Arsenal can be used on rights-of-way, non-irrigated ditchbanks, fence rows, and storage areas. Depending on climate, it can last up to one year.

Circle No. 195 on Reader Service Card

Glenmac/Harley's new smaller power rake

Glenmac/Harley announces a new reduced version of its Harley landscape power rake.



The new five-foot double-roller model works just like its established eight-foot, three-point hitch cousin. The new Model TR35 pulverizes soil for a seed bed while it rakes rock, roots, and trash into a windrow. It weighs just one-half the bigger TR38 and fits 15-hp tractors and up.

Circle No. 197 on Reader Inquiry Card

Hose reel built for applicators

Aero-Motive introduces a redesigned hose reel for liquid fertilizer and weed control chemical applicators. The Lawn Care Reel comes in three sizes to accommodate 300, 400, or 500 feet of ½-inch inside diameter spray hose.

The unit features an externally-mounted V-belt drive plus an external swing joint that uses a readily available O-ring seal. Featured also is a special gear box and a hand-operated clutch.

The Lawn Care Reel includes a 12-

Olathe MODEL 12 P.T.O. CHIPPER

PORTABLE
DEPENDABLE
ECONOMICAL

- Less than ½ the price of equal capacity chippers
- Fits most tractors from 25 to 100 H.P.
- Mulch-type chip. 5 to 6" branch dia. capacity
- Patented safety throw-out —stops feed instantly
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Popular 3-pt Hitch Model or Pull Type Trailer Option

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913-782-4396

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TRY THIS WITH ANY OTHER

Others do their level best to convince you that a flashy-looking riding mower is just what you need.

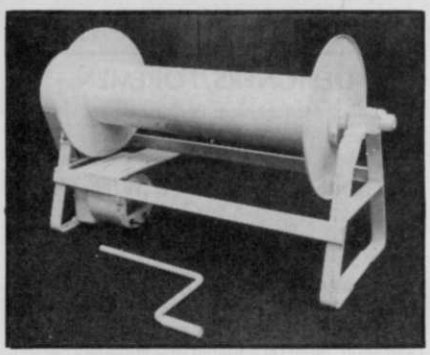
But for all those times when "level best" isn't good enough, consider a 68" or 84" Triplex from National.

They're engineered with ground-hugging stability that lets you cruise over virtually any terrain. And even a beginner gets professional results because the Triplex's three floating reels reach out over crowns or curbs without ever scalping.

★ ★ ★
NATIONAL MOWER COMPANY
SINCE 1919

©1986, National Mower Co.

volt DC motor for self-contained power, or it can be adapted to PTO. The fluid path of the reel is nickel-iron with a stainless steel one-piece elbow.



Circle No. 198 on Reader Inquiry Card

Tree Spade digs up to four feet into ground

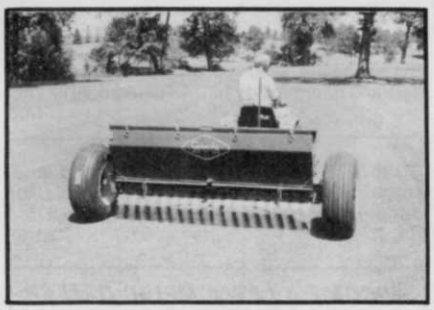
Burkeen Manufacturing Company's Arbor Master 45 tree spade features a 1,50-pound root ball that is 48 inches deep for less root damage and better tree livibility, says the manufacturer. Available in either truck or loader mount, the Arbor Master 45 is all hydraulic with controls located for optimum visibility and safety.

Circle No. 199 on Reader Service Card

Circle No. 199 on Reader Service Card

Spreader features steel hopper bottoms

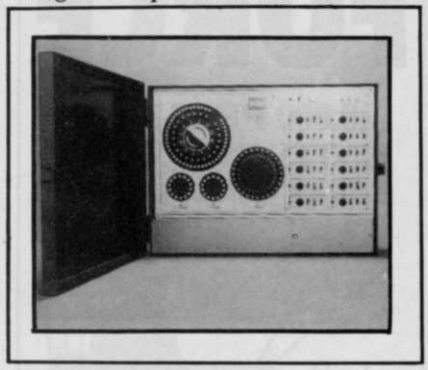
The Gandy 10 Series fertilizer spreaders feature full stainless steel hopper bottoms and metering slides. Gandy says the components give longer service life while complementing the precision metering of the Gandy units. Cam gauges on all Gandy spreaders adjust hopper openings to assure uniform, full-width application across the entire swath. The 10 Series spreaders are available in two models for both agricultural and turf use.



Circle No. 200 on Reader Inquiry Card

Toro Irrigation has new controller

Toro's Irrigation Division introduces the H-312 Controller designed to provide maximum watering flexibility with three independent, easy to use programs. The unit features solid state reliability and user-friendly programming, according to the manufacturer. It provides 45 start times with watering cycles of up to 60 minutes per station.



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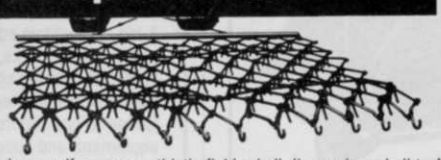
KEEPS TURF in top condition

Low-Cost FUERST F-L-E-X-I-B-L-E TINE HARROW®



The proven low cost way to keep golf courses, athletic fields, ball diamonds and all turf areas in top condition. Crumbles and scatters cores without clogging, brings up thatch, prepares seedbed without disrupting existing growth. Areates to stimulate growth, scarifies to improve moisture penetration. Works in seed and fertilizer. Maintains cinder tracks. 4 to 42 ft. widths. Adjustable penetration. No maintenance. *Satisfaction guaranteed.*

For FREE literature, testimonials, prices, phone toll-free 1-800/435-9630. (In IL, call 815/732-3239). Or write

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Circle No. 127 on Reader Inquiry Card

RIDING MOWER!

Like all National mowers, your Triplex comes standard with our famous oversized bedknives and adjustable reels. This assures you years of dependable service with absolute minimum upkeep.

Fast, simple, versatile, and dependable — if that's what you want in an all-terrain mower, write or call us today for complete details and a Free Demonstration from the dealer nearest you.

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612/646-4079.

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TASK FORCE

20,000 PROMARK UNITS IN ACTION NATIONWIDE!

3 models

MODEL 16-SP (self-propelled) STUMP & ROOT GRINDER

Grinds stumps to 18" below ground. Under 30" wide.

3 models incl. P.T.O.

MODEL 310 BRUSH CHIPPER

Feeds from any direction. 360° rotation. Hydraulic feed.

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Install/remove in under 10 minutes. 360° continuous rotation, feathering controls.

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Circle No. 160 on Reader Inquiry Card

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RATES: $1.00 per word (minimum charge, $25). Bold face words or words in all capital letters charged at $1.25 per word. Boxed or display ads: $85 per column inch-1x (one inch minimum); $80-3x; $75-6x; $70-12x. Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add $5 to total cost of ad. Send ad copy with payment to Dawn Nilsen, WEEDS TREES & TURF, 1 East First Street, Duluth, MN 55802 or call 218-723-9200.

BOX NUMBER REPLIES: Mail box number replies to: WEEDS TREES & TURF, Classified Ad Department, 120 W. 2nd St., Duluth, MN 55802. Please include box number in address.

BUSINESS OPPORTUNITIES

WANT TO BUY OR SELL a golf course? Exclusively golf course transactions and appraisals. Ask for our catalog. McKay Golf and Country Club Properties, 15485 N. East Street, Lansing, Michigan 48906. Phone (517) 484-7726. TF

Tree Service Business. Very profitable, business and equipment, $220,000, owner retiring. Contact: Bertrand Bourget, Box 16074, Rumford, RI 02916. 1/86

BUSINESS OPPORTUNITIES: Growing landscape and nursery business in the beautiful Cape Cod area of Massachusetts. Write WTT Box 376. 1/86

BECOME A LAWN MEDIC DEALER AND GROW FASTER WITH US!

Get The Advantages Of A Large Company, —But Keep Your Managerial And Ownership Independence

You gain by:
- A big competitive edge utilizing the Lawn Medic name, marks, and systems.
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- Option to group purchase of insurance, equipment, and supplies.
- Increased resale value of your business.
- No up front franchise fee.
- Protected territory, rights to large secondary market areas.
- Lowest business royalty fee in the industry and tangible benefits that will pay for the fee!

It is an easy change over to Lawn Medic. Must be a qualified, licensed L.C.O. manager. Write for details:

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Lawn Medic Inc.
617 Sibley Tower
Rochester, NY 14604

HELP WANTED

LANDSCAPE MAINTENANCE FOREMAN to do quality oriented residential landscaping. Associate degree or comparable experience. Must be motivated and have working knowledge of turf and ornamentals. Mechanical ability desirable. Good compensation program. Good opportunity with growing company. Schrauf Landscaping, 35482 Chestnut Ridge, North Ridgeville, Ohio 44039. 216/327-8873. 12/85

Landscape Construction And Maintenance: Tired Of Long, Cold Winters? Award Winning Company In Atlanta Seeks Experience And Dedication. Full Benefits And Top Pay For A Twelve Month Season. Send Letter And Resume To Convey Your Interest. Gibbs Landscape Co. (Formerly Greenbrothers), 4111 Burge Road, Smyrna, Georgia 30080. 1/86

DESIGNERS/FOREMEN

Office Management Personnel needed.
Residential Work Only

Send resume to:
DENNIS ANDERSON & WIFE, INC.
P.O. Box 702
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TREE CARE MANAGER—rapidly growing Eastern PA lawn and tree care company seeking individual to manage and oversee complete tree care operation. Must be capable of completely designing tree care program and be well versed in all phases of chemical tree care. 3 years management or supervisory experience mandatory. Formal education important. Excellent starting compensation package for qualified applicant. Send resume indicating present and past work history and salary to WTT Box 378.

SOD FARM MANAGER: 500 acre Chicago-area operation seeks qualified manager. Involves production, irrigation, and harvesting. Excellent salary and benefits. Send resume to WTT Box 354. 2/86

MANUFACTURERS REPS

We've got a lot of people, in a wide range of markets, that want to see this **HARLEY LINE.**

Money making opportunities in most parts of the country will be filled in the next few months. If you have time, like to demonstrate and want more profit dollars,

CALL
1-800-437-9779 1/86

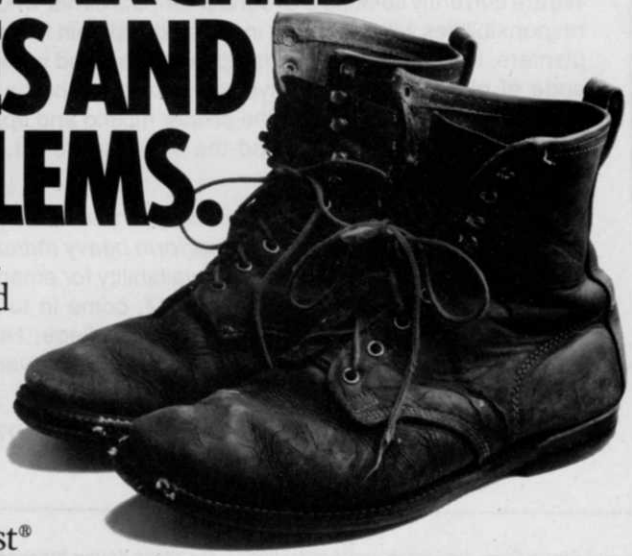
LANDSCAPE IRRIGATION SPECIALIST—Several openings for individuals qualified in total irrigation repair of major systems for Dallas area landscape maintenance firm. License helpful but not required. Majority of work on commercial properties. Salary commensurate with experience. Many benefits plus bonus opportunities. Send resume with complete experience background and salary requirements in care of WTT Box 352 1/86

CEMETERY SUPERINTENDENT: Florida West Coast. 100 acres; 1200 services/year. 20-man crew. Salary $22,000-$30,000; excellent fringes. Requires: B.S. Agricultural Science, 3 years field supervisory experience in Southern climate. Send resume to WTT Box 374. 1/86

LAWN MEDIC. SERVICE TECHNICIAN: Full time positions, year round employment. Lawn care experience preferred. Competitive salary and fringe benefits. Call 1-3 p.m. (919) 724-7075 or NC only 1-800-822-3224, or send resume: P.O. Box 769, Kernersville, NC 27285. 1/86

Landscape, Irrigation, Lawn Care Contractor seeking an aggressive, self motivated person for seven month seasonal business in the snow country of Northern Michigan. Send resume with experience and salary requirements to: Lappan's of Gaylord, 4085 South Old 27, Gaylord, Michigan 49735. 1/86

BEFORE WE DEVELOPED THESE PROBLEM-SOLVING TURFGRASS MIXTURES, WE MARCHED THROUGH ACRES AND ACRES OF PROBLEMS.



Nobody knows the troubles we've seen.

Our Northrup King turf specialists and researchers have hoofed through salt problems, soil compaction, disease, starved turf, baked turf, cleated-to-shreds turf, and dormant winter turf—all depressing sights. But it was a road well worth our travels.

The result is a complete line of Medalist® turfgrass formulas that meet the demands of the professional turf manager.

If you've been staring down at a turf problem, look up your solution here. And if you think it's a turf problem we haven't seen, just let us know.

Our business is putting your problems behind us.

MEDALIST TURF PRODUCTS ™

MEDALIST TURF PRODUCT	MAJOR AREAS OF USE	SPECIAL FEATURES
Athletic Pro and Athletic Pro II	For athletic turf.	Well suited for new seeding or overseeding. Fast establishing, traffic tolerant, rapid recovery. Both provide good footing.
Boulevard Mix	Any area with high pH (roadsides, sidewalks, boulevards, alkaline soils, etc.).	Contains 'Fults' and Dawson red fescue for beautiful salt-tolerant turf. Performs at low to high fertility levels.
Landscape Pro Mix	School grounds, cemeteries, golf course roughs, home lawns.	Establishes fast. Adapts to broad range of conditions and management levels. Low to moderate fertility needs.
Overseeder II Mix	Fairways, tees, athletic fields.	Rapid germination and establishment. Withstands heavy traffic and resists diseases. Penetrates compacted soils.
Medalist North Mix	Fairways, tees, cart paths, wear areas.	Quality turf for high traffic areas. Clean mowing and disease resistant.
Premium Sod Blend	Commercial sod production.	Exceptional dark green color. Tolerates light shade. Superior disease resistance. Rapid sod producer.
Renovator Pro Mix	Problem solver for heavy traffic areas (athletic fields, golf tees, and fairways).	Penetrates compacted soils and combats *Poa annua.* Adaptable to most geographic regions.
Medalist Brand Overseeding Products	Winter overseeding of dormant bermudagrass.	Establishes rapidly and evenly. Tolerates traffic while providing a superior putting surface. Smooth spring transition.

Ask your Northrup King distributor about Medalist Turf Products to solve your turf problems. Or write Northrup King Medalist Turf Products, P.O. Box 959, Minneapolis, MN 55440.

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Bentley College

GROUNDSKEEPER/GARDENER

We are currently seeking a Groundsman/Gardener whose primary responsibilities will be to plan, install and maintain flower beds and planters. Incumbent should also possess a good working knowledge of plant materials, all types of flowers, shrubs and trees. Other responsibilities will be the proper mixing and application of all sprays and insecticides and the ability to select, prune and shape all trees and shrubs.

REQUIREMENTS: At least 5 years experience in horticulturing or equivalent schooling, the ability to perform heavy manual work, a Massachusetts Driver's license and availability for emergency call in. Qualified applicants call 617-891-3427, come in to fill out an application or foward resume to Bentley College, Human Resources Dept., F. & A. Morison Bldg., Rm. 145, Beaver & Forest Sts., Waltham, MA 02254.

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER M/F.

1/86

Tree and Shrub Care. Salesman and Application Specialists. America's fastest growing tree and shrub company seeking experienced, aggressive personnel for existing and expansion markets. Experience, degree and motivation key ingredients. Tremendous advancement opportunities. Excellent salary benefits. All inquiries will be strictly confidential. Send resume, salary history to: William Scott Carr, Tru Green Tree and Shrub Care, 8324 Shaver Road, Kalamazoo, MI 49002. Expand your potential with an industry leader. 1/86

HEAD GOLF COURSE MECHANIC—Large company seeking an enthusiastic and knowledgeable person to take charge of a well equipped maintenance facility. Golf Course experience preferable, with background in fabrication and shop supervision. Excellent salary, benefits and opportunities available. Send resume to: Club Manager/Superintendent, Jacaranda Country Club, 9200 W. Broward Blvd., Plantation, Florida 33324. 1/86

Management Trainee - ServiceMaster LawnCare - We are a multinational service company looking for people to train for management positions in our rapidly expanding franchise operation. We need people with good communication skills, customer service orientation, and willingness to relocate. We offer compensation based on ability and productivity, complete benefit package, and the opportunity to grow with the number one service company of the Fortune 500. Please respond with resume, salary history and requirements to: ServiceMaster Industries, LawnCare Division, 2300 Warrenville Road, Downers Grove, IL 60515. T/F

Go West Young Manager - One of the nation's fastest-growing lawn and tree care companies is looking for experienced, successful managers to help us grow both in our lawn care and our tree care divisions. Send resume to: WTT Box 377. 1/86

LANDSCAPE MAINTENANCE AND CONSTRUCTION SUPERVISORS: Rochester, N.Y. Responsibilities include production and sales - Commercial/Residential. Excellent career opportunities for responsible, ambitious, and self motivated individual. Send qualifications and employment history to: P.O. Box 92, Webster, NY 14580. 1/86

LANDSCAPE TURF SPECIALIST—Expanding landscape maintenance firm in Dallas area seeks experienced, knowledgeable individual licensed in ornamental pesticide applications. Serious opportunity for serious individual. Competitive salary plus benefits and bonus incentives. Send resume to include details of experience and salary requirements in care of WTT Box 351. 1/86

Management. Challenging opportunity for Operations/Sales Manager on a corporate level with major lawn service company in Chicago-area. Seeking take charge individual with proven track record in sales and production management. Ideal candidate to have telemarketing experience. Liberal salary and profit sharing plan. Please respond with resume and salary history to: S.R. Blass, P.O. Box 486, Cary, IL 60013. 1/86

Help wanted: supervisor or manager for well established landscape and maintenance firm. Potential unlimited for right person. Only those willing to work need apply. Send resume and salary desired to: Joe Sidari Landscaping, Inc., 2358 Highmoor Road, Highland Park, IL. 60035. 1/86

PARKS DISTRICT MAINTENANCE OPERATIONS MANAGER—Annual Salary $27,047.00. The City of Atlanta, Georgia is recruiting to fill a vacancy in parks maintenance administration. This individual is responsible for the daily administration of the parks district maintenance system and other activities for the beautification and environmental enhancement of the City of Atlanta. Applicants must possess a Bachelors Degree in ornamental horticulture, agronomy, turf management or a closely related field and a minimum of three years of progressively responsible experience in park management and supervision, preferably in the top capacity of local government. A Georgia drivers license is required upon appointment. Registration as a professional in a program approved by the National Park and Recreation Association or a nationally recognized licensing authority is desirable. **RECREATION SPECIAL PROGRAMS MANAGER ($24,044.00 Annually).** The City of Atlanta is seeking an individual with a background in recreation administration, with skills in program development, implementation and evaluation. Responsibilities include designing and coordinating a multi-faceted summer youth recreation program. Applicants must possess a Bachelors Degree in recreation administration and at least three years of top level management experience in recreation administration, program design and development, coordination and evaluation of multi-faceted programs involving local, state and federal government agencies, large corporations and various other community resource agencies. Demonstrated ability in fundraising budget preparation, expenditure of funds; directing, organizing and coordinating the efforts of a large staff, varied government agencies and educational institutions. A valid Georgia drivers license is required upon appointment. Registration as a professional Recreator in a program approved by the national recreation and park association is desirable. Metro Atlanta prospects must apply in person M/T, from 8:30 A.M. to 4:30 P.M. All others must request an application by February 21, 1986, specifying the job title from: City of Atlanta, BPHR, 260 Central Avenue S.W., Atlanta, GA 30335 EEO/full benefits. 1/86

LANDSCAPE MAINTENANCE SALES—Positions available in sales with one of Dallas/Fort Worth's leading landscape maintenance companies. Respondents must have experience in landscape maintenance or related field and comprehensive sales background. We're looking for personable, ambitious and self-motivated people. Please send resume with salary requirements in care of WTT Box 350. 1/86

LANDSCAPE MAINTENANCE FIELD SUPERVISOR—Great opportunity available with large, quickly expanding firm in Dallas area. Must have landscape experience and technical knowledge in order to qualify. Excellent salary plus benefits and bonus incentive programs. Send resume describing pertinent experience and salary requirements in care of WTT Box 353. 1/86

FOR SALE

FOR SALE: Spray trucks. 1985 International Harvester 1654 Load Star diesel with 1250 gallon stainless steel 2-compartment tank and PTO driven pump. 2 units available - for lawn and tree spraying. Only 8 months old, 3000 miles. Call (516) 757-5233.

SOD FARM—18 acre producing farm complete with equipment, beautiful country home and barn. Established 1972 and has produced the area's finest sod. 20 minutes from downtown Indianapolis. Call 317-769-3230. 2/86

A new clay carrier for Balan just made the best value in crabgrass control even better. Clay particles improve spreadability and make application more uniform than limestone or corncob carriers. Clay also greatly reduces the dust inherent to other carriers. And increases equipment calibration accuracy.

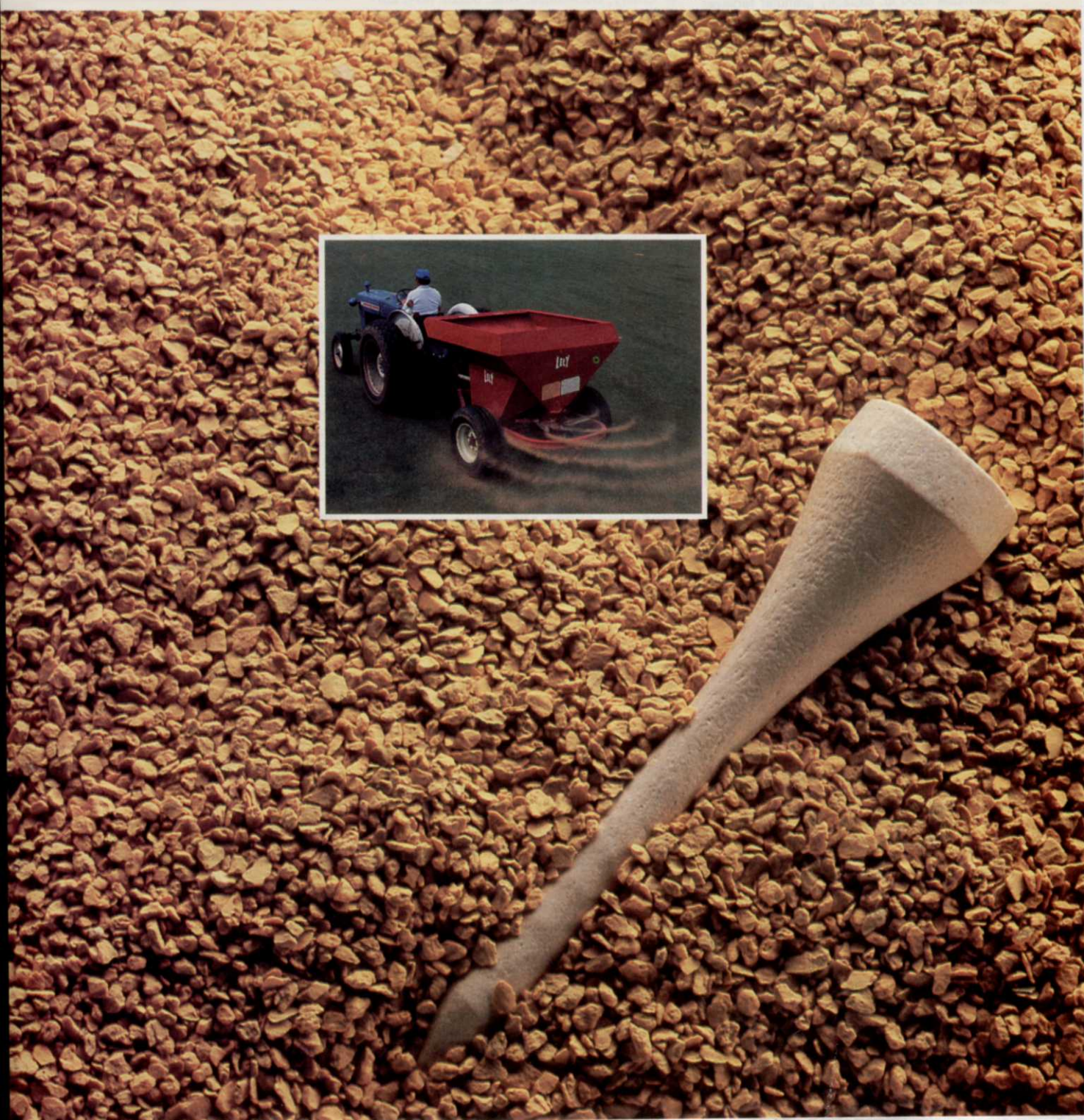
With Balan you get superior preemergence crabgrass control for eight to ten weeks with a single application. Then you can overseed or perform other turf management jobs, without worry of reduced seed germination. If you want longer control, the Balan price allows you a second application.

Balan. The better spreader. Talk to your Elanco distributor soon. Or write:

Elanco Products Company
A Division of Eli Lilly and Company
Dept. E-455, Indianapolis, IN 46285, U.S.A.
Balan®—(benefin, Elanco Products Company)

Circle No. 120 on Reader Inquiry Card

New Balan® particle size. The better spreader for crabgrass control.



TREE EQUIPMENT
USED-RECONDITIONED-NEW

Brush Chippers, Tree & Turf Sprayers
Bucket Trucks, Stump Grinders

For the Best Price, Service & Delivery
ESSCO **(516) 226-5104**
12/85

SPRAY TRUCKS 1980 GMC: Series 6000 350 V8 4 speed and 2 speed axel. Units are equipped with 1200 gal. Tuflex fiber glass tanks, mechanical agitation, 10 GPM Bean pump, 50 gal. side tank, 8 hp. Kohler engine drive, Hannay electric hose reel and detachable 1200 lb. capacity granular fertilizer box. $10,500.00. Bob MacPherson 312-293-1036. 1/86

FOR SALE: 1 Brower Sod Harvester model A3A. Mounted on 3,600 Ford tractor. Like brand new. Approx. 200 hours. (906) 563-8942. 1/86

8 Complete Buckner 1360 Cam driven sprinkler heads. Complete 1-40 horsepower 1-7 h.p. Turbin irrigation pumps. Also, 1 - 7½ horsepower. For information contact: Golf Superintendent, 817-738-9226. 1/86

BROUWER HARVESTER OWNERS! ELECTRIC DEPTH CONTROL. Save time and money with improved quality control. Make depth-of-cut adjustments, on the move, with one button finger tip control. Allows you to cut longer rows through varying soil conditions. $795.00. 30-day satisfaction guarantee and full-year warranty. Write or call: Shattuck Turf Equipment, 1872 N.W. 82nd, Des Moines, IA 50322, (515)278-5255. Patent pending. 12/85

LIGHTED PAR 3 GOLF COURSE - 15 ACTIVITY RECREATION FACILITY AND 3 COMMERCIAL BLDGS. Central Indiana Box 205, Mt. Summit, IN 47361. 317-284-1459. 1/86

LAWN SEED. Wholesale. Full line of top quality grasses. Improved bluegrass varieties, fine fescues and fine bladed ryegrasses. We specialize in custom mixing. Oliger Seed Company, 2705 Wingate Avenue, Akron, OH 44314. Call collect (216) 753-2259. TF

TREE FERTILIZATION GUN, tested on over a million square feet of trees and shrubs all over the U.S. Good to 500 psi, repairable, non-corrosive. Buy direct from manufacturer, $106.00. (shipping included). Arbor-Nomics, Inc., 5634-A Buford Highway, Atlanta, Georgia 30071. (404) 447-6037. TF

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FOR SALE- 1983 Harley Rock Picker, 12' Rock Windrower in Phoenix, Arizona- $17,500, both units. Gundersons Inc., Rapid City, SD 605-343-6530 1/86

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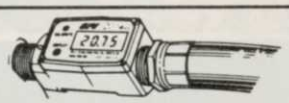

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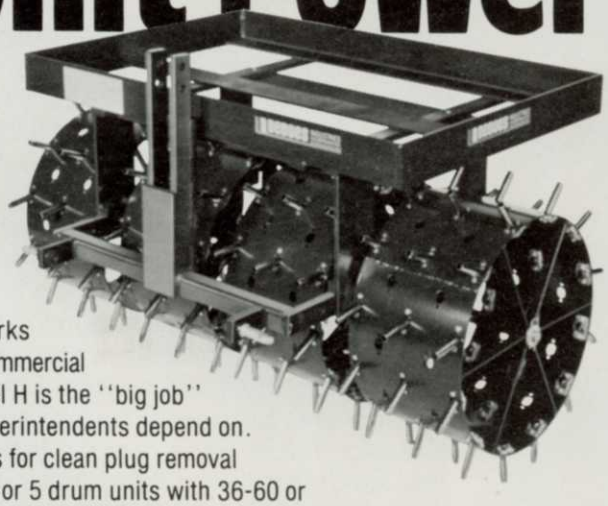

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MARKETING AND BUDGETING • VALUING A LAWN SERVICE COMPANY
SALES TRAINING • DEVELOPING AN ADVERTISING PLAN

1986 PLCAA ProManager Seminar Series Focuses on Growth and Profitability

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FACULTY

John Linkhart

Currently the owner/operator of Hart's Lawn Service as well as a senior consultant for AGMA, Linkhart was formerly the V.P. Operations for Perf-A-Lawn. He has been involved in every aspect of operations from both the standpoint of an owner as well as operating his division for a major national company.

Rudd McGary

A senior consultant with AGMA, Dr. McGary was formerly on the marketing faculty at Ohio State. He has been involved with marketing and management in the Lawn Care Industry for eight years, helping design both marketing and management systems for a wide variety of over 50 companies in the industry.

Bob Robinson

Robinson is a senior consultant with AGMA as well as running his own mulch company. Formerly Robinson was in charge of all agronomic programs for Chemlawn, which included both the selection of materials as well as assessing operating costs.

Ed Wandtke

Currently a senior consultant with AGMA, Wandtke was the Corporate Finance Manager for Chemlawn. A CPA, Wandtke works primarily in the areas of finance and accounting for AGMA with a broad-based background in all operating areas of lawn care.

The Professional Lawn Care Association of America announces the 1986 PLCAA **ProManager Seminar Series.** This new seminar series . . .

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- **Chicago — January 23 - 24**
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- **Philadelphia — January 20 - 21**

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- **Baltimore — February 10 - 12**
- **Chicago — February 19 - 21**
- **Detroit — February 26 - 28**
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- **Chicago — January 27 - 29**

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On keeping your job

True or false: if you can keep your golf course green and playable, you will also keep your job.

False.

So says Stanley Zontek, and Stanley Zontek should know. In 15 years as a director for the USGA Green Section, he has visited nearly 3,000 golf course superintendents.

"Today, growing grass is way down on the list of reasons I see superintendents lose their jobs," Zontek told Ohio superintendents last month.

At the top of the list, he says, are personal conflicts between supers and their bosses and the inability to get along with people. Club politics ranks next. Grass-growing and complacency round out Zontek's list.

"Growing fine, playable turf is almost assumed any more," Zontek says. "The only job security you have is your knowledge of the profession, how well you do your job, and your reputation and image."

Among young superintendents, there is also a tendency to "oversell yourself," which sometimes creates problems.

"You try to slay the dragon right away," Zontek observes. "You want to plant 250 trees the first year, but you don't tend to the details of moving the holes and cleaning up the garbage in the parking lot. Build your reputation first, then you can proceed to tear up the course."

The modern golf course superintendent's job is built around professionalism and communication, Zontek notes. Methods for implementing both might be suggestion boxes for members, bulletin boards with news and notes from the superintendent, and involving club members in test plot administration.

Zontek's other attributes of a competent superintendent are attention to small details, enthusiasm and avoiding club politics.

So you want job security? Learn to get along with people—especially your boss.

Jerry Roche

Jerry Roche, editor

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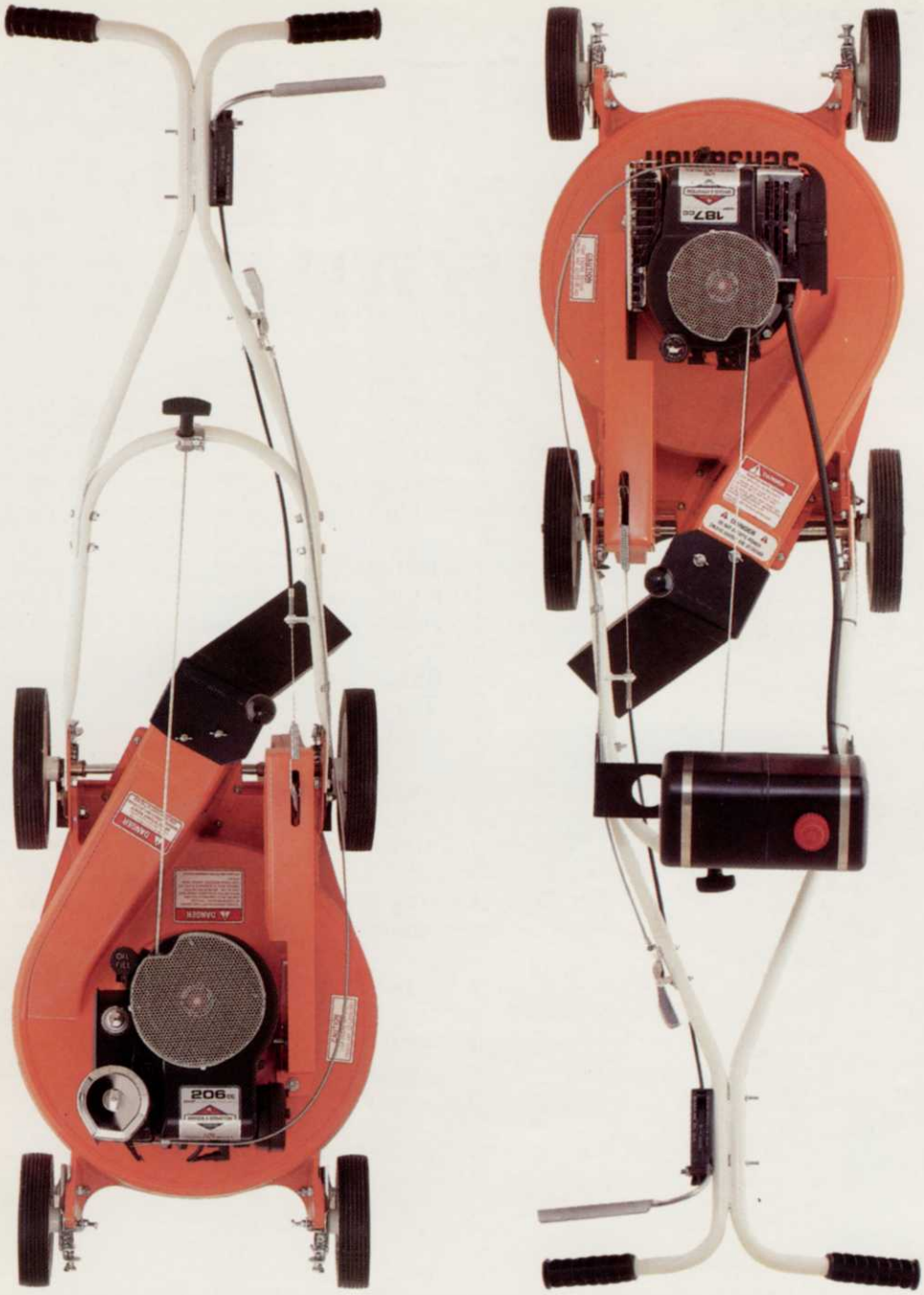

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Tara	5.8
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Citation II	5.7
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